



Subject card

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|---|--|--|---|-------------------------------------|--|------------|-----|
| Subject name and code | , PG_00055303 | | | | | | |
| 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 | 6 | ECTS credits | | | 3.0 | | |
| Learning profile | general academic profile | Assessment form | | | assessment | | |
| Conducting unit | Zakład Mechaniki i Konstrukcji Morskich -> Institute of Ocean Engineering and Ship Technology -> Faculty of Mechanical Engineering and Ship Technology | | | | | | |
| Name and surname of lecturer (lecturers) | Subject supervisor | | dr inż. Karol Niklas | | | | |
| | Teachers | | dr inż. Karol Niklas | | | | |
| Lesson types and methods of instruction | Lesson type | Lecture | Tutorial | Laboratory | Project | Seminar | SUM |
| | Number of study hours | 0.0 | 0.0 | 0.0 | 30.0 | 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 | Design of the prefabrication plan for selected ship section. | | | | | | |
| 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 | | The student is able to make a 3D model and assembly sketches of the block on the basis of the developed 2D drawing. | | [SW3] Assessment of knowledge contained in written work and projects | | |
| | [K6_W05] has an organized knowledge on design, construction and operation of ocean technology objects and systems | | The student has a structured knowledge of shipbuilding technology and, on the basis of this knowledge, knows how to develop an individual block construction project. | | [SW3] Assessment of knowledge contained in written work and projects | | |
| | [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 | | The student has a general knowledge of the manufacturing processes of a ship's hull and can develop a selected computer model of a ship block. | | [SU4] Assessment of ability to use methods and tools [SU1] Assessment of task fulfilment | | |

| Subject contents | <p>The instructions should include:</p> <ol style="list-style-type: none"> 1. Site selection and construction method: <ol style="list-style-type: none"> 1.1 Description of the vessel, purpose, technical characteristics. Selection in the magazine (e.g., significant ship) of an example general cargo ship/container/ bulk carrier corresponding to the dimensions of the vessel under development describe the main information about the vessel, interpretation of class symbols may be the vessel from the previous project under TBO II 1.2 Select the shipyard and construction site of the block under development identify the block making equipment. 1.3 Carry out the division of the block into space sections and lobe sections 1.4 Develop the procedure for acceptance of steel and welding materials (PRS) 2. design of the framework technology of construction of the selected hull block <ol style="list-style-type: none"> 2.1 Ideogram of the sequence of technological operations of block assembly 2.2 Instruction for measuring during assembly determination of base planes 2.3 Instruction for welding block: techniques for making connections, preparation of edges for welding and welding parameters, welding materials, order and directions of welds in the block, welding of connecting elements 2.4 Instruction for acceptance of the finished block: measuring on acceptance (what is measured, tolerances) 2.5 Determination of the storage area needed to store the materials for making the selected block and for 5 similar blocks. 2.6 Instruction for transporting the block to the site of the hull assembly arrangement of transport handles | | | | | | | | |
|--|---|---|-------------------|-------------------------------|---------|-------|--------|--|--|
| Prerequisites and co-requisites | | | | | | | | | |
| Assessment methods and criteria | <table border="1" data-bbox="448 714 794 786"> <thead> <tr> <th data-bbox="448 714 794 745">Subject passing criteria</th> <th data-bbox="794 714 1141 745">Passing threshold</th> <th data-bbox="1141 714 1495 745">Percentage of the final grade</th> </tr> </thead> <tbody> <tr> <td data-bbox="448 745 794 786">project</td> <td data-bbox="794 745 1141 786">51.0%</td> <td data-bbox="1141 745 1495 786">100.0%</td> </tr> </tbody> </table> | Subject passing criteria | Passing threshold | Percentage of the final grade | project | 51.0% | 100.0% | | |
| Subject passing criteria | Passing threshold | Percentage of the final grade | | | | | | | |
| project | 51.0% | 100.0% | | | | | | | |
| Recommended reading | Basic literature | <ol style="list-style-type: none"> 1. Eyres D.J., Bruce G.J., Ship Construction, ISBN 978-0-08-097239-8, DOI: 10.1016/C2010-0-68324-6, 2012 2. Manuals: NX, Solid Edge, Nupas Cadmatic, Rhino 3D, Inne. 3. G. Farin, J. Hoschek, M. Kim: Handbook of computer aided geometric design, 2002 Elsevier, ISBN: 978-0-444-51104-1 | | | | | | | |
| | Supplementary literature | Shipbuilding design regulations of selected classification societies, e.g. DNV, LR, PRS. | | | | | | | |
| | eResources addresses | Adresy na platformie eNauczanie: Praca projektowa III, P, sem.6, lato23/24, PG_00055303 - Moodle ID: 36898 https://enauzanie.pg.edu.pl/moodle/course/view.php?id=36898 | | | | | | | |
| Example issues/ example questions/ tasks being completed | <ol style="list-style-type: none"> 1. Analysis of input data 2. Making a 3D computer model of the ship block, taking into account selected structural and technological aspects. 3. Analysis of the transport of the block. (Execution of the design of transport stiffeners, transport handles, etc.). 4. Making a completion list of the ship block. | | | | | | | | |
| Work placement | Not applicable | | | | | | | | |