



Subject card

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| Subject name and code | , PG_00057349 | | | | | | |
| Field of study | Ocean Engineering | | | | | | |
| Date of commencement of studies | February 2023 | | Academic year of realisation of subject | | 2023/2024 | | |
| Education level | second-cycle studies | | Subject group | | Optional subject group Subject group related to scientific research in the field of study | | |
| Mode of study | Part-time studies | | Mode of delivery | | at the university | | |
| Year of study | 1 | | Language of instruction | | Polish | | |
| Semester of study | 2 | | ECTS credits | | 6.0 | | |
| Learning profile | general academic profile | | Assessment form | | exam | | |
| 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. Piotr Bzura | | | | |
| | Teachers | | | | | | |
| Lesson types and methods of instruction | Lesson type | Lecture | Tutorial | Laboratory | Project | Seminar | SUM |
| | Number of study hours | 27.0 | 9.0 | 0.0 | 18.0 | 0.0 | 54 |
| | 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 | 54 | | 20.0 | | 76.0 | 150 |
| Subject objectives | To acquaint students with all possible issues related to the design of marine diesel power plants | | | | | | |
| Learning outcomes | Course outcome | | Subject outcome | | Method of verification | | |
| | [K7_W06] has an organized, widened knowledge on engineering methods and design tools allowing the conducting of advanced projects within the construction and operation of ocean technology objects and systems | | The student is able to make a preliminary design of a marine power plant | | [SW2] Assessment of knowledge contained in presentation | | |
| | [K7_U07] in compliance with a formulated specification and with the aid of appropriate tools and methods, is able to complete an advanced engineering task within the range of design, construction and operation of ocean technology objects and systems | | The student is able to choose the optimal solution to the problem related to the design of the marine power plant. | | [SU1] Assessment of task fulfilment | | |
| | [K7_W05] has an organized, widened knowledge on design, construction and operation of ocean technology objects and systems | | The student understands the processes of energy transformation in ship machinery and equipment and the phenomena occurring in pipelines. | | [SW2] Assessment of knowledge contained in presentation | | |
| Subject contents | The procedure for the selection of various propulsion systems, thrusters, selection of main engines, generating sets and various machines and devices necessary in the engine room. Creating integrated installations and plan of a power plant, analysis of energy, electric and steam balances | | | | | | |
| Prerequisites and co-requisites | | | | | | | |
| Assessment methods and criteria | Subject passing criteria | | Passing threshold | | Percentage of the final grade | | |
| | exam | | 50.0% | | 100.0% | | |

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| Recommended reading | Basic literature | <p>1. Zygmunt Górski, Mariusz Giernalczyk. Siłownie okrętowe. Akademia Morska w Gdyni 2014.</p> <p>2. Michalski R.: Siłownie okrętowe. Obliczenia wstępne oraz ogólne zasady doboru mechanizmów i urządzeń pomocniczych instalacji siłowni okrętowych. Skrypt Politechniki Szczecińskiej, Szczecin 1987.</p> <p>3. Przepisy klasyfikacji i budowy statków morskich. PRS, Gdańsk 2004.</p> <p>4. Urbański P.: Instalacje spalinowych siłowni okrętowych. Skrypt PG, Gdańsk 1994.</p> <p>5. Wojnowski W.: Okrętowe siłownie spalinowe. Gdańsk, 1992</p> |
| | Supplementary literature | <p>1. Project Guide MAN B&W</p> <p>2. Project Guide Wartsila</p> |
| | eResources addresses | Adresy na platformie eNauczanie: |
| Example issues/ example questions/ tasks being completed | <p>1. Draw and describe the integrated fuel system</p> <p>2. Draw and annotate the integrated lubricating oil system</p> <p>3. Present and describe the propulsion system in which obtaining the motive power for the ship N_w, electric power and heat Q_0 takes place in two independently operating devices, namely in two main engines and from systems with heat loss utilization of exhaust gases from main engines for heat production and obtaining electricity in a turbo generator.</p> | |
| Work placement | Not applicable | |