



Subject card

| | | | | | | | |
|---|---|--|-------------------------------------|------------|--|---------|-----|
| Subject name and code | Marine Environment Protection, PG_00060505 | | | | | | |
| Field of study | Design and Construction of Yachts | | | | | | |
| Date of commencement of studies | October 2024 | Academic year of realisation of subject | | | 2024/2025 | | |
| Education level | first-cycle studies | Subject group | | | Obligatory subject group 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 | 1 | ECTS credits | | | 2.0 | | |
| Learning profile | general academic profile | Assessment form | | | assessment | | |
| Conducting unit | Zakład Siłowni Okrętowych -> Institute of Ocean Engineering and Ship Technology -> Faculty of Mechanical Engineering and Ship Technology | | | | | | |
| Name and surname of lecturer (lecturers) | Subject supervisor | dr inż. Roman Liberacki | | | | | |
| | 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 | 0.0 | 0.0 | 15 |
| | 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 | 15 | 2.0 | | 33.0 | | 50 |
| Subject objectives | Familiarizing students with technical and legal issues in the field of protection of the marine environment against pollution from ships and marine structures. | | | | | | |
| Learning outcomes | Course outcome | Subject outcome | | | Method of verification | | |
| | [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 | The student knows what hazards the ship may pose to the natural environment and knows how to counteract these hazards. | | | [SW1] Assessment of factual knowledge | | |
| | [K6_K03] is aware of the impact of non-technical aspects on the engineer's work and the impact of engineering activities on the natural environment | The student is aware of the negative impact of ships and marine structures on the natural environment and the need to respect the legal regulations in the design and operation of such units. | | | [SK5] Assessment of ability to solve problems that arise in practice | | |
| | [K6_W07] has knowledge of the principles of sustainable development | The student knows the rule of sustainable development. | | | [SW1] Assessment of factual knowledge | | |
| Subject contents | Introduction, the principle of sustainable development, the definition of marine environment pollution, sources of sea water and atmosphere pollution, legal aspects in this area. Conventions: MARPOL, Helkom, BWM. Natural environment pollutants: oily substances, sanitary sewage, garbage, harmful substances contained in exhaust gases and organisms in ballast water, the other pollutants. Sources of formation of the above-mentioned pollutants on ships. Legal, organizational and technical ways to limit their emission. Environmental protection devices mounted on ships, yachts, platforms. Vibrations and noises. Oil tanker disasters, Combating oil pollution. The problem of scrapping of ships. Environmental protection devices in ports. Decarbonization in shipbuilding, low-emission and zero-emission ships. | | | | | | |
| Prerequisites and co-requisites | No special requirements. | | | | | | |
| Assessment methods and criteria | Subject passing criteria | Passing threshold | | | Percentage of the final grade | | |
| | Written colloquium | 50.0% | | | 100.0% | | |

| | | |
|--|---|--|
| Recommended reading | Basic literature | <p>1. Kaniewski E., Tymański S.: Ochrona środowiska. Gdynia, WSM, 1987.</p> <p>2. Małaczyński M.: Ochrona środowiska morskiego przed zanieczyszczeniami ze statków. PG, Gdańsk, 1980.</p> <p>3. Wiewióra A.: Ochrona środowiska morskiego w eksploatacji statków. WSM, Szczecin, 1999 r.</p> |
| | Supplementary literature | <p>Information on the website of the International Maritime Organization</p> <p>Information on the website of the Polish Register of Shipping</p> |
| | eResources addresses | Adresy na platformie eNauczenie: |
| Example issues/ example questions/ tasks being completed | <p>1. The principle of sustainable development in relation to the protection of the marine environment</p> <p>2. Selection of environmental protection devices for the vessel</p> <p>3. The risks associated with the migration of organisms in ballast waters.</p> <p>4. Harmful substances emitted from ships into waters and the atmosphere.</p> | |
| Work placement | Not applicable | |