



Subject card

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|---|---|--|---|-------------------------------------|--|------------|-----|
| Subject name and code | Environmental management and ecology, PG_00040195 | | | | | | |
| Field of study | Mechanical Engineering | | | | | | |
| Date of commencement of studies | October 2021 | | Academic year of realisation of subject | | 2023/2024 | | |
| Education level | first-cycle studies | | 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 | | English | | |
| Semester of study | 6 | | ECTS credits | | 2.0 | | |
| Learning profile | general academic profile | | Assessment form | | assessment | | |
| Conducting unit | Zakład Systemów i Urządzeń Energetyki Ciepłej -> Institute of Energy -> Faculty of Mechanical Engineering and Ship Technology | | | | | | |
| Name and surname of lecturer (lecturers) | Subject supervisor | | dr inż. Paweł Szymański | | | | |
| | Teachers | | dr inż. Paweł Szymański | | | | |
| Lesson types and methods of instruction | Lesson type | Lecture | Tutorial | Laboratory | Project | Seminar | SUM |
| | Number of study hours | 15.0 | 0.0 | 15.0 | 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 | | 6.0 | | 14.0 | 50 |
| Subject objectives | To acquaint students with multiple the environmental aspects of industrial processes and green technologies. | | | | | | |
| Learning outcomes | Course outcome | | Subject outcome | | Method of verification | | |
| | [K6_K02] understands ex-technical aspects of the activities included in the profession of a mechanical engineer, among others its social impact and influence on the condition of an environment; is aware of the responsibility connected with the decisions made in connection with engineering activity | | Student lists pollutants emitted into the atmosphere. Student defines and distinguishes between waste and hazardous waste. Student lists basic legislation on environmental protection. | | [SK5] Assessment of ability to solve problems that arise in practice | | |
| | K6_W12 | | The student has basic knowledge necessary to understand non-technical conditions of engineering activities, in particular environmental protection activities. | | [SW3] Assessment of knowledge contained in written work and projects | | |
| | K6_U11 | | The student lists the pollutants emitted into the atmosphere. The student defines and distinguishes waste and dangerous waste. The student lists the basic legal acts regarding environmental protection. | | [SU2] Assessment of ability to analyse information | | |
| Subject contents | <ul style="list-style-type: none">Principles of Sustainable DevelopmentPrinciples of EcologyPrinciples of Environmental ProtectionEffect of Global Warming on Climate ChangePollution and Causes of Climate ChangeRenewable Energy ResourcesEffect Of Using Fossil Fuels On Climate ChangeHydro power, Wind power, Geothermal Energy, Solar Power, Biomass, Nuclear energyInternational Environmental Agreements/Convection | | | | | | |
| Prerequisites and co-requisites | General and basic technical knowledge | | | | | | |

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| Assessment methods and criteria | Subject passing criteria | Passing threshold | Percentage of the final grade |
| | Oral test | 56.0% | 100.0% |
| Recommended reading | Basic literature | 1. 1. A. Farmer. Handbook of Environmental Protection and Enforcement. Principles and Practice. Earthscan. London. 2007 2. D.H.F. Liu, B.G. Liptak, P.A. Bouis. Environmental Engineers Handbook. Lewis Publishers. 1997. 3. F.R. Spellman. Handbook of Environmental Engineering. CRC Press. 2015. | |
| | Supplementary literature | www.mos.gov.pl www.ure.gov.pl www.cire.pl www.eea.europa.eu www.iea.org | |
| | eResources addresses | Adresy na platformie eNauczanie: | |
| Example issues/ example questions/ tasks being completed | 1. What is the principle of sustainable development?2. List the most important pollutants emitted into the atmosphere by burning fossil fuels.3. Give some examples of techniques used in the clean-burning boilers.4. What is a trading system for CO2 emissions | | |
| Work placement | Not applicable | | |