



Subject card

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|---|---|--|---|-------------------------------------|--|------------|-----|
| Subject name and code | Introduction to Environmental Science, PG_00060832 | | | | | | |
| Field of study | Chemical Technology | | | | | | |
| 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 | | 1.0 | | |
| Learning profile | general academic profile | | Assessment form | | assessment | | |
| Conducting unit | Department of Analytical Chemistry -> Faculty of Chemistry | | | | | | |
| Name and surname of lecturer (lecturers) | Subject supervisor | | dr inż. Paweł Kubica | | | | |
| | Teachers | | dr inż. Paweł Kubica | | | | |
| 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 | | 1.0 | | 9.0 | 25 |
| Subject objectives | Students are familiarized with the fundamentals about environmental issues. | | | | | | |
| Learning outcomes | Course outcome | | Subject outcome | | Method of verification | | |
| | [K6_U05] recognises and identifies the relationship between technological issues, implemented in industrial practice, and their impact on various elements of the environment, in the context of mechanisms and conditions of sustainable development, recognizes their systemic and non-technical aspects | | Student is able to recognize dependencies between technological processes and understands its influence on the environment. | | [SU2] Assessment of ability to analyse information | | |
| | [K6_W03] has knowledge of environmental protection in chemical technology, the classification of technological processes in terms of their environmental impact and how to eliminate the environmental impact of technological installations | | The student knows the issues related to the impact of technological processes on the environment. Students can: - class technological solutions because of their environmental nuisance - to use in practice referred to technological solutions. | | [SW1] Assessment of factual knowledge | | |
| | [K6_K02] understands the non-technical aspects and implications of the activities of a chemical engineer, including the impact on the environment, is aware of professional behaviour, observance of professional ethics and respect for diversity of views and cultures | | Student understands the impact of undertaken technological activities on the environment. In addition, Student can use the principles of professional ethics. | | [SK5] Assessment of ability to solve problems that arise in practice | | |
| Subject contents | Basic information about the environment and its components. Classifications sources of emissions to the environment due to: - Sources of emissions: - Nature of human activity - The range of the impact of emission sources. Classification of processes due to: - Degree of impact to the environment - How to eliminate the impact of technological systems on the environment. Basic information on how to waste gas, waste water treatment and utilization of by-products and waste. Presentation of the basic processes and responses, which are subject to contamination at the stage of environmental emissions. Discussion of the basic techniques of environmental protection against pollution (protection of restoration, remediation and prevention technologies, emissions). The importance of the various elements of the environment for technological processes. | | | | | | |

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| Prerequisites and co-requisites | Knowledge of the fundamentals of chemistry | | |
| Assessment methods and criteria | Subject passing criteria | Passing threshold | Percentage of the final grade |
| | final test | 60.0% | 100.0% |
| Recommended reading | Basic literature | Not included. The course is in polish. | |
| | Supplementary literature | Not included. The course is in polish. | |
| | eResources addresses | Adresy na platformie eNauczanie: | |
| Example issues/ example questions/ tasks being completed | 1. Atmospheric air: sources of pollution, transport routes of chemical and physical pollutants.2. The greenhouse effect and greenhouse gases, the potential to create the greenhouse effect.3. Water and water pollution.4. Pollution what is it? What could it be? How to avoid it and what are the sources of pollution (general division).5. Typical forms of organic contamination in the ground. | | |
| Work placement | Not applicable | | |