



## Subject card

|   |  |  |   |            |   |         |     |
|---|--|--|---|------------|---|---------|-----|
| Subject name and code                       | , PG_00059980  |  |   |            |   |         |     |
| Field of study                              | Environmental Engineering  |  |   |            |   |         |     |
| Date of commencement of studies             | February 2024  |  | Academic year of realisation of subject |            | 2024/2025   |         |     |
| Education level                             | second-cycle studies   |  | Subject group                           |            | Obligatory subject group in the field of study<br>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                               | 1  |  | Language of instruction                 |            | Polish  |         |     |
| Semester of study                           | 2  |  | ECTS credits                            |            | 4.0   |         |     |
| Learning profile                            | general academic profile   |  | Assessment form                         |            | assessment  |         |     |
| Conducting unit                             | Department of Environmental Engineering Technology -> Faculty of Civil and Environmental Engineering   |  |   |            |   |         |     |
| Name and surname of lecturer (lecturers)    | Subject supervisor   |  | prof. dr hab. inż. Aneta Łuczkiwicz     |            |   |         |     |
|   | Teachers   |  |   |            |   |         |     |
| Lesson types and methods of instruction     | Lesson type  | Lecture  | Tutorial                                | Laboratory | Project   | Seminar | SUM |
|   | Number of study hours  | 30.0   | 0.0                                     | 30.0       | 0.0   | 0.0     | 60  |
|   | 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  | 60   | 5.0                                     |            | 38.0  | 103     |     |
| Subject objectives                          | The subject concerns aspects of public health (including quality of life) that are determined by biological, chemical and physical environmental factors; it also covers the assessment, elimination and prevention of factors in the environment that may have a negative impact on the current and future generations. |  |   |            |   |         |     |
| Learning outcomes                           | Course outcome   | Subject outcome  |   |            | Method of verification  |         |     |
|   | K7_U07   | The student is able to plan and conduct the laboratory/field tests, leading to the assessment of the solutions implemented in environmental engineering                        |   |            | [SU1] Assessment of task fulfilment<br>[SU4] Assessment of ability to use methods and tools<br>[SU3] Assessment of ability to use knowledge gained from the subject   |         |     |
|   | K7_U04   | The student is able to prepare and present a presentation of carried experiment or research task; Student is able to discuss a presented results.                              |   |            | [SU1] Assessment of task fulfilment<br>[SU2] Assessment of ability to analyse information<br>[SU3] Assessment of ability to use knowledge gained from the subject<br>[SU5] Assessment of ability to present the results of task |         |     |
|   | K7_U11   | When formulating and solving design or research tasks, the student is able to integrate knowledge from the environmental engineering, supported by economic and legal aspects. |   |            | [SU1] Assessment of task fulfilment<br>[SU2] Assessment of ability to analyse information<br>[SU3] Assessment of ability to use knowledge gained from the subject<br>[SU5] Assessment of ability to present the results of task |         |     |
|   | K7_W07   | The student has in-depth, structured, theoretically based knowledge of municipal management, including water and wastewater treatment as well as sewage sludge processing.     |   |            | [SW1] Assessment of factual knowledge<br>[SW2] Assessment of knowledge contained in presentation  |         |     |

| Subject contents   | <p>Lectures:</p> <p>Discussion of contemporary threats to public health posed by biological and chemical agents. Tracking environmental pollutants figuring out where and how people are exposed. Laws and policies to reduce different types of pollution in terms of prevention of serious health problems. Analysis of emissions of antopogenic substances in terms of occurrence of environmentally caused diseases. Analysis of the possible mitigation of above-mentioned emissions. Analysis of the popularization of the knowledge in the field of environmental health and the development of positive pro-ecological attitudes in community.</p> <p>Laboratory classes:</p> <p>Analysis of microbiological contamination of the environment. Analysis of chemical factors shaping the microbiological quality of the environment in the context of toxicological and epidemiological threats. Climate change and resistance of bacterial strains to environmental factors in terms of biodiversity loss and the occurrence of infectious diseases.</p> |  |  |                          |                   |                               |                |       |       |                           |       |       |
|--|--|--|--|--------------------------|-------------------|-------------------------------|----------------|-------|-------|---------------------------|-------|-------|
| Prerequisites and co-requisites                          | Podstawy zagadnień z biologii, chemii i inżynierii środowiska  |  |  |                          |                   |                               |                |       |       |                           |       |       |
| Assessment methods and criteria                          | <table border="1" data-bbox="448 651 1487 752"> <thead> <tr> <th data-bbox="448 651 794 685">Subject passing criteria</th> <th data-bbox="794 651 1141 685">Passing threshold</th> <th data-bbox="1141 651 1487 685">Percentage of the final grade</th> </tr> </thead> <tbody> <tr> <td data-bbox="448 685 794 719">lecture - test</td> <td data-bbox="794 685 1141 719">60.0%</td> <td data-bbox="1141 685 1487 719">60.0%</td> </tr> <tr> <td data-bbox="448 719 794 752">laboratory - presentation</td> <td data-bbox="794 719 1141 752">40.0%</td> <td data-bbox="1141 719 1487 752">40.0%</td> </tr> </tbody> </table>  |  |  | Subject passing criteria | Passing threshold | Percentage of the final grade | lecture - test | 60.0% | 60.0% | laboratory - presentation | 40.0% | 40.0% |
| Subject passing criteria                                 | Passing threshold  | Percentage of the final grade  |  |                          |                   |                               |                |       |       |                           |       |       |
| lecture - test   | 60.0%  | 60.0%  |  |                          |                   |                               |                |       |       |                           |       |       |
| laboratory - presentation                                | 40.0%  | 40.0%  |  |                          |                   |                               |                |       |       |                           |       |       |
| Recommended reading                                      | <p>Basic literature</p> <p>Supplementary literature</p> <p>eResources addresses</p>  | <p>Centers for Disease Control and Prevention: <a href="https://www.cdc.gov/nceh/tracking/tracking-intro.html">https://www.cdc.gov/nceh/tracking/tracking-intro.html</a></p> <p>WHO: <a href="https://www.who.int/data/gho/data/themes/public-health-and-environment">https://www.who.int/data/gho/data/themes/public-health-and-environment</a></p> <p>Environmental Health - Healthy People 2030: <a href="https://health.gov/healthypeople/objectives-and-data/browse-objectives/environmental-health">https://health.gov/healthypeople/objectives-and-data/browse-objectives/environmental-health</a></p> <p>-</p> <p>Adresy na platformie eNauczanie:</p> |  |                          |                   |                               |                |       |       |                           |       |       |
| Example issues/ example questions/ tasks being completed |  |  |  |                          |                   |                               |                |       |       |                           |       |       |
| Work placement   | Not applicable   |  |  |                          |                   |                               |                |       |       |                           |       |       |