

## Subject card

|   |  |  |          |                                     |   |            |     |
|---|--|--|----------|-------------------------------------|---|------------|-----|
| Subject name and code                       | Chemical and radiochemical environmental analysis, PG_00082497   |  |          |                                     |   |            |     |
| Field of study                              | Chemistry  |  |          |                                     |   |            |     |
| Date of commencement of studies             | October 2024   | Academic year of realisation of subject                                  |          |                                     | 2025/2026   |            |     |
| Education level                             | Master's studies   | Subject group  |          |                                     | Obligatory subject group in the field of study<br>Optional subject group          |            |     |
| Mode of study                               | full-time studies  | Mode of delivery   |          |                                     | at the university   |            |     |
| Year of study                               | 2  | Language of instruction  |          |                                     | Polish<br>Polish language   |            |     |
| Semester of study                           | 4  | ECTS credits   |          |                                     | 3.0   |            |     |
| Learning profile                            | academic   | Assessment form  |          |                                     | credit  |            |     |
| Conducting unit                             | Laboratory of Environmental Analytics and Radiochemistry -> Department of Environmental Chemistry and Radiochemistry -> Faculty of Chemistry -> Rector       |  |          |                                     |   |            |     |
| Name and surname of lecturer (lecturers)    | Subject supervisor   | prof. dr hab. Bogdan Skwarzec  |          |                                     |   |            |     |
|   | Teachers   |  |          |                                     |   |            |     |
| Lesson types                                | Lesson type  | Lecture  | Tutorial | Laboratory                          | Project   | Seminar    | SUM |
|   | Number of study hours  | 30.0   | 0.0      | 0.0                                 | 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   |          | 5.0                                 |   | 40.0       | 75  |
| Subject objectives                          | The aim of the course is to familiarize students with radiochemical methods  |  |          |                                     |   |            |     |
| Learning outcomes                           | Course outcome   | Subject outcome  |          |                                     | Method of verification  |            |     |
|   | [CHEMMU2_K01] Knows the limitations of her/his own knowledge; understands the need for further education and can inspire other people to do so.              | understands the needs for further education                              |          |                                     | [SK1] oral statement/conversation/discussion<br>[SK4] test/exam - oral or written |            |     |
|   | [CHEMMU2_W05] Has extended knowledge in the field of the specialisation studied.   | has knowledge about the studied specialty                                |          |                                     | [SW4] test/exam - oral or written<br>[SW1] oral statement/conversation/discussion |            |     |
|   | [CHEMMU2_W01] Uses knowledge of spectroscopic methods of chemical compound analysis.   | has knowledge of spectroscopic methods                                   |          |                                     | [SW4] test/exam - oral or written<br>[SW1] oral statement/conversation/discussion |            |     |
|   | [CHEMMU2_W11] Demonstrates general knowledge about the current trends in the development of chemistry as a science and the latest discoveries in this field. | has knowledge of current directions in the development of chemistry      |          |                                     | [SW4] test/exam - oral or written<br>[SW1] oral statement/conversation/discussion |            |     |
| Subject contents                            | natural and artificial radioactivity radial analytical methods determination and separation of radionuclides in environmental samples                        |  |          |                                     |   |            |     |
| Prerequisites and co-requisites             | analytical chemistry and basics of radiochemistry  |  |          |                                     |   |            |     |
| Assessment methods and criteria             | Subject passing criteria   | Passing threshold  |          |                                     | Percentage of the final grade   |            |     |
|   | written exam   | 51.0%  |          |                                     | 100.0%  |            |     |
| Recommended reading                         | Basic literature   | Bogdan Skwarzec, Environmental radiochemistry, UG Publishing House, 2021 |          |                                     |   |            |     |

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|--|--|----------------|
|  | Supplementary literature   | not applicable |
|  | eResources addresses   |                |
| Example issues/<br>example questions/<br>tasks being completed | List the radianalytic methods Discuss methods for determining radionuclides in environmental samples |                |
| Work placement   | Not applicable   |                |

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