

## Subject card

|                                             |                                                                                                                                                                                                                                                                                                                              |                                                          |                                                                                                                                                                                                                                                                                                             |                                     |                                                                                                                                                                                     |                                                                                                                                                |     |
|---------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| Subject name and code                       | Biological assessment of marine ecosystem health - laboratory exercises, PG_00054207                                                                                                                                                                                                                                         |                                                          |                                                                                                                                                                                                                                                                                                             |                                     |                                                                                                                                                                                     |                                                                                                                                                |     |
| Field of study                              | Oceanography                                                                                                                                                                                                                                                                                                                 |                                                          |                                                                                                                                                                                                                                                                                                             |                                     |                                                                                                                                                                                     |                                                                                                                                                |     |
| Date of commencement of studies             | October 2025                                                                                                                                                                                                                                                                                                                 |                                                          | 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<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                           | 1                                                                                                                                                                                                                                                                                                                            |                                                          | ECTS credits                                                                                                                                                                                                                                                                                                |                                     |                                                                                                                                                                                     | 2.0                                                                                                                                            |     |
| Learning profile                            | academic                                                                                                                                                                                                                                                                                                                     |                                                          | Assessment form                                                                                                                                                                                                                                                                                             |                                     |                                                                                                                                                                                     | credit                                                                                                                                         |     |
| Conducting unit                             | Department of Marine Ecology -> Faculty of Oceanography and Geography -> Rector                                                                                                                                                                                                                                              |                                                          |                                                                                                                                                                                                                                                                                                             |                                     |                                                                                                                                                                                     |                                                                                                                                                |     |
| Name and surname of lecturer (lecturers)    | Subject supervisor                                                                                                                                                                                                                                                                                                           |                                                          | dr Halina Kendzierska                                                                                                                                                                                                                                                                                       |                                     |                                                                                                                                                                                     |                                                                                                                                                |     |
|                                             | Teachers                                                                                                                                                                                                                                                                                                                     |                                                          |                                                                                                                                                                                                                                                                                                             |                                     |                                                                                                                                                                                     |                                                                                                                                                |     |
| Lesson types                                | Lesson type                                                                                                                                                                                                                                                                                                                  | Lecture                                                  | Tutorial                                                                                                                                                                                                                                                                                                    | Laboratory                          | Project                                                                                                                                                                             | Seminar                                                                                                                                        | SUM |
|                                             | Number of study hours                                                                                                                                                                                                                                                                                                        | 0.0                                                      | 0.0                                                                                                                                                                                                                                                                                                         | 15.0                                | 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                                                       |                                                                                                                                                                                                                                                                                                             | 10.0                                |                                                                                                                                                                                     | 25.0                                                                                                                                           | 50  |
| Subject objectives                          | To develop an understanding of the assessment of threats to the marine environment from human activities. The learning and selection of methods to biologically assess the quality and sustainability of the marine environment and the effects of stressors on the behaviour and physiological processes of marine animals. |                                                          |                                                                                                                                                                                                                                                                                                             |                                     |                                                                                                                                                                                     |                                                                                                                                                |     |
| Learning outcomes                           | Course outcome                                                                                                                                                                                                                                                                                                               |                                                          | Subject outcome                                                                                                                                                                                                                                                                                             |                                     | Method of verification                                                                                                                                                              |                                                                                                                                                |     |
|                                             | [OCEANMU2-U04] is ready to develop in an analytical and synthetic way research and analysis results and based on them creating conclusions                                                                                                                                                                                   |                                                          | K_U04 is able to elaborate analytically and synthetically on the results of studies and analyses and, on the basis of these, to make correct inferences concerning the biological assessment of the quality of the marine environment.                                                                      |                                     | [SU2] presentation/project/paper/report<br>[SU3] text preparation/written work<br>[SU5] implementation of a problem task<br>[SU8] observation of student's independent or team work |                                                                                                                                                |     |
| Subject contents                            | B.1 Assessment of marine environmental quality based on studies of benthic communities;<br>B.2 Assessment of marine environmental quality based on studies of marine biotopes;<br>B.3 Laboratory studies using biomarkers.                                                                                                   |                                                          |                                                                                                                                                                                                                                                                                                             |                                     |                                                                                                                                                                                     |                                                                                                                                                |     |
| Prerequisites and co-requisites             |                                                                                                                                                                                                                                                                                                                              |                                                          |                                                                                                                                                                                                                                                                                                             |                                     |                                                                                                                                                                                     |                                                                                                                                                |     |
| Assessment methods and criteria             | Subject passing criteria                                                                                                                                                                                                                                                                                                     |                                                          | Passing threshold                                                                                                                                                                                                                                                                                           |                                     | Percentage of the final grade                                                                                                                                                       |                                                                                                                                                |     |
|                                             | assignment papers, reports                                                                                                                                                                                                                                                                                                   |                                                          | 51.0%                                                                                                                                                                                                                                                                                                       |                                     | 100.0%                                                                                                                                                                              |                                                                                                                                                |     |
| Recommended reading                         | Basic literature                                                                                                                                                                                                                                                                                                             |                                                          | DellOmo G., 2002. Behavioural Ecotoxicology, John Wiley & Sons Ltd, Chichester, UK<br>Gray J., Elliott M., 2010, Ecology of Marine sediments from science to management, Oxford University Press.<br>Walker C.H., Hopkin S.P., Sibly R.M., Peakall D.B., 2002. Podstawy ekotoksykologii, Wyd. PWN, Warszawa |                                     |                                                                                                                                                                                     |                                                                                                                                                |     |
|                                             | Supplementary literature                                                                                                                                                                                                                                                                                                     |                                                          | -                                                                                                                                                                                                                                                                                                           |                                     |                                                                                                                                                                                     |                                                                                                                                                |     |
|                                             | eResources addresses                                                                                                                                                                                                                                                                                                         |                                                          |                                                                                                                                                                                                                                                                                                             |                                     |                                                                                                                                                                                     |                                                                                                                                                |     |

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| Example issues/<br>example questions/<br>tasks being completed |                |
| Work placement                                                 | Not applicable |

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