

## Subject card

|                                             |                                                                                                                                                                                                                                                                                 |                                                          |                                                                                              |                                     |                                                                                   |            |     |
|---------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|----------------------------------------------------------------------------------------------|-------------------------------------|-----------------------------------------------------------------------------------|------------|-----|
| Subject name and code                       | Basics of Scientific Diving - Introduction to the Scientific Diver Course - laboratory, PG_00204949                                                                                                                                                                             |                                                          |                                                                                              |                                     |                                                                                   |            |     |
| Field of study                              | Oceanography                                                                                                                                                                                                                                                                    |                                                          |                                                                                              |                                     |                                                                                   |            |     |
| Date of commencement of studies             | October 2026                                                                                                                                                                                                                                                                    |                                                          | Academic year of realisation of subject                                                      |                                     | 2027/2028                                                                         |            |     |
| 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                                                                            |            |     |
| Semester of study                           | 4                                                                                                                                                                                                                                                                               |                                                          | ECTS credits                                                                                 |                                     | 1.0                                                                               |            |     |
| Learning profile                            | academic                                                                                                                                                                                                                                                                        |                                                          | Assessment form                                                                              |                                     | credit                                                                            |            |     |
| Conducting unit                             | Laboratory of Ichthyology -> Department of Marine Ecology -> Faculty of Oceanography and Geography -> Rector                                                                                                                                                                    |                                                          |                                                                                              |                                     |                                                                                   |            |     |
| Name and surname of lecturer (lecturers)    | Subject supervisor                                                                                                                                                                                                                                                              |                                                          | dr hab. Mariusz Sapota, prof. UG                                                             |                                     |                                                                                   |            |     |
|                                             | Teachers                                                                                                                                                                                                                                                                        |                                                          |                                                                                              |                                     |                                                                                   |            |     |
| Lesson types                                | Lesson type                                                                                                                                                                                                                                                                     | Lecture                                                  | Tutorial                                                                                     | Laboratory                          | Project                                                                           | Seminar    | SUM |
|                                             | Number of study hours                                                                                                                                                                                                                                                           | 0.0                                                      | 15.0                                                                                         | 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                          | Familiarization with the basics of observation methods and underwater documentation                                                                                                                                                                                             |                                                          |                                                                                              |                                     |                                                                                   |            |     |
| Learning outcomes                           | Course outcome                                                                                                                                                                                                                                                                  |                                                          | Subject outcome                                                                              |                                     | Method of verification                                                            |            |     |
|                                             | [OCEANMU2-K01] is ready to plan, implement and supervise, individually or collectively, next stages of the entrusted task, is ready to take responsibility for its results;                                                                                                     |                                                          | is ready to plan tasks related to underwater scientific work in a group                      |                                     | [SK8] observation of student's independent or team work                           |            |     |
|                                             | [OCEANMU2-U03] can plan and carry out independently advanced research and measurements, both in field and laboratory, using appropriately selected measurement and analytical techniques in the field of oceanography, adequately to the studied specialty and research problem |                                                          | can independently plan oceanographic research and measurements using Scuba diving techniques |                                     | [SU6] demonstration of practical skills                                           |            |     |
|                                             | [OCEANMU2-W03] has an in-depth understanding of research methods used in oceanography and related sciences, and interprets their mechanisms and interrelationships across different spatial and temporal scales                                                                 |                                                          | knows and understands complex research issues related to direct underwater research          |                                     | [SW2] presentation/project/paper/report<br>[SW5] implementation of a problem task |            |     |

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|----------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|
| Subject contents                                               | Preparation for underwater observations. Safety rules, equipment description.                                                                                                                                   |                                                                                                                                                                                                                                                 |                               |
|                                                                | Tools used during underwater observations. Independently adapt tools suitable for specific observations and environmental work.                                                                                 |                                                                                                                                                                                                                                                 |                               |
|                                                                | Design of underwater observation tools depending on the planned research. Independent design and manufacture of tools for underwater observations.                                                              |                                                                                                                                                                                                                                                 |                               |
|                                                                | Practical application of the analysis of groups of organisms. Determination of species composition, abundance and degree of surface cover on the basis of independently collected samples from the environment. |                                                                                                                                                                                                                                                 |                               |
| Prerequisites and co-requisites                                |                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                 |                               |
| Assessment methods and criteria                                | Subject passing criteria                                                                                                                                                                                        | Passing threshold                                                                                                                                                                                                                               | Percentage of the final grade |
|                                                                | assessment of the correctness of the tasks performed                                                                                                                                                            | 51.0%                                                                                                                                                                                                                                           | 100.0%                        |
| Recommended reading                                            | Basic literature                                                                                                                                                                                                | Cappo, M., Brown, I.W., 1996, Evaluation of sampling methods for reef fish populations or commercial and recreational interest, CCR Reef Research Centre, Technical Report No.6, Townsville, CCR Reef Research Centre, 72 s.                    |                               |
|                                                                |                                                                                                                                                                                                                 | Zale, A. V., Parrish, D.L., Sutton T.M. (red.), 2012, Fisheries techniques, third edition. American Fisheries Society, Bethesda, Maryland                                                                                                       |                               |
|                                                                |                                                                                                                                                                                                                 | Labrosse, P., Kulbicki M., Ferraris J., 2002, Underwater Visual Fish Census Surveys. Proper use and implementation                                                                                                                              |                               |
|                                                                |                                                                                                                                                                                                                 | English, S., Wilkinson, C., Baker, V. (red.), 1997, Survey Manual for Tropical Marine Resources, Australian Institute of Marine Science, Townsville, Queensland, Australia                                                                      |                               |
|                                                                |                                                                                                                                                                                                                 | Coyer, J., Witman, J., 1990, The underwater catalog. A guide to methods In underwater research. Shoals Marine Laboratory, Cornell University, Ithaca, New York                                                                                  |                               |
|                                                                |                                                                                                                                                                                                                 | Lang, M.A., Baldwin, C.C. (red), 1996, Methods and Techniques of Underwater Research. Proceedings of the Americam Academy of Underwater Sciences, Scientific Diving Symposium, October 12-13, 1996, Smithsonian Institution, Washington DC, 236 |                               |
|                                                                | Supplementary literature                                                                                                                                                                                        | Samsel, J., Podwodny świat. Obserwacje przyrodnicze, e-book                                                                                                                                                                                     |                               |
|                                                                |                                                                                                                                                                                                                 | Samoilys, M. (red.), 1997, Manual for Assessing Fish Stocks on Pacific Coral Reefs. Department of Primary Industries, GPO Box 46, Brisbane Qld 4001, Australia                                                                                  |                               |
|                                                                | eResources addresses                                                                                                                                                                                            |                                                                                                                                                                                                                                                 |                               |
| Example issues/<br>example questions/<br>tasks being completed |                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                 |                               |
| Work placement                                                 | Not applicable                                                                                                                                                                                                  |                                                                                                                                                                                                                                                 |                               |

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