

## Subject card

|                                             |                                                                                                                                                                                                                                                                                                                  |                                                          |                                         |                                     |                                                                                                                      |            |     |
|---------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|-----------------------------------------|-------------------------------------|----------------------------------------------------------------------------------------------------------------------|------------|-----|
| Subject name and code                       | Hydrology and oceanography - lecture, PG_00119889                                                                                                                                                                                                                                                                |                                                          |                                         |                                     |                                                                                                                      |            |     |
| Field of study                              | Geography                                                                                                                                                                                                                                                                                                        |                                                          |                                         |                                     |                                                                                                                      |            |     |
| Date of commencement of studies             | October 2025                                                                                                                                                                                                                                                                                                     |                                                          | Academic year of realisation of subject |                                     | 2026/2027                                                                                                            |            |     |
| Education level                             | Bachelor's 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                               | 2                                                                                                                                                                                                                                                                                                                |                                                          | Language of instruction                 |                                     | Polish                                                                                                               |            |     |
| Semester of study                           | 3                                                                                                                                                                                                                                                                                                                |                                                          | ECTS credits                            |                                     | 2.0                                                                                                                  |            |     |
| Learning profile                            | academic                                                                                                                                                                                                                                                                                                         |                                                          | Assessment form                         |                                     |                                                                                                                      |            |     |
| Conducting unit                             | Laboratory of Limnology -> Department of Hydrology -> Faculty of Oceanography and Geography -> Rector                                                                                                                                                                                                            |                                                          |                                         |                                     |                                                                                                                      |            |     |
| Name and surname of lecturer (lecturers)    | Subject supervisor                                                                                                                                                                                                                                                                                               |                                                          | dr Wojciech Maślanka                    |                                     |                                                                                                                      |            |     |
|                                             | 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                                                       |                                         | 6.0                                 |                                                                                                                      | 20.0       | 56  |
| Subject objectives                          | 1. Learning the causes and geographical conditions of water circulation in nature.<br><br>2. Spatial diversity of hydrosphere objects and their characteristics.<br><br>3. Learning the sources of hydrological information.<br><br>4. Mastering the ability to prepare the results of hydrometric measurements. |                                                          |                                         |                                     |                                                                                                                      |            |     |

| Learning outcomes               | Course outcome                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Subject outcome                                                                                                                                                      | Method of verification            |
|---------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|
|                                 | [GEOGRL3-W05] Has advanced knowledge of the environment Earth's geographic environment, understood as a unified system of interrelated and interacting each other's components; its diversity, functioning and dynamics of change, including the mutual interaction of environmental components in the area of South Baltic Coastal and Lake Districts                                                                                                                                                                                                     | K_W05 Knows and understands the interactive relationships connecting the hydrosphere with others geospheres (Thematic content: A. 1-10)                              | [SW4] test/exam - oral or written |
|                                 | [GEOGRL3-W03] in an advanced degree the processes and phenomena occurring in the natural environment of the Earth, with particular emphasis on the processes and phenomena occurring on the territory of Poland, especially the Coastal and South Baltic Lake Districts                                                                                                                                                                                                                                                                                    | K_W03 Understands the concept of the hydrological cycle and knows the governing processes depletion and replenishment of water resources (Thematic contents: A.1-10) | [SW4] test/exam - oral or written |
|                                 | [GEOGRL3-W08] at an advanced level methods and principles development of data on the natural and anthropogenic environment, and methods of their analysis and interpretation                                                                                                                                                                                                                                                                                                                                                                               | K_W08 Knows and understands the methods and purpose of developing hydrological data (Thematic content: A.1-10)                                                       | [SW4] test/exam - oral or written |
|                                 | [GEOGRL3-W07] on advanced level methods of acquiring data on the natural and anthropogenic environment, including operation of specialized equipment                                                                                                                                                                                                                                                                                                                                                                                                       | K_W07 Knows the methods of obtaining hydrological information (Thematic content: A.1-10)                                                                             | [SW4] test/exam - oral or written |
|                                 | [GEOGRL3-W02] key concepts in geography and theories on spatial variation and distribution of processes and phenomena on the Earth's surface                                                                                                                                                                                                                                                                                                                                                                                                               | K_W02 Knows and understands basic hydrological terminology (Thematic content: A.1-10)                                                                                | [SW4] test/exam - oral or written |
| Subject contents                | <p>A. Topics of the lecture:</p> <p>A.1. Subject and scope of hydrology research.</p> <p>A.2. Hydrosphere and its properties.</p> <p>A.3. An underground link in the water cycle.</p> <p>A.4. Hydrographic objects (springs, streams, lakes, swamps, glaciers).</p> <p>A.5. Territorial hydrographic units.</p> <p>A.6. The terrestrial part of the hydrological cycle.</p> <p>A.7. Water balance and its changes.</p> <p>A.8. Thermal and dynamic processes in inland waters.</p> <p>A.9. River debris.</p> <p>A.10. Selected issues in oceanography.</p> |                                                                                                                                                                      |                                   |
| Prerequisites and co-requisites |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                      |                                   |

| Assessment methods and criteria | Subject passing criteria | Passing threshold                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Percentage of the final grade |
|---------------------------------|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|
|                                 | exercises                | 51.0%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 50.0%                         |
|                                 | exam                     | 51.0%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 50.0%                         |
| Recommended reading             | Basic literature         | <p>A. Literature required to finally pass the course (pass the exam):</p> <p>A.1. used during classes:</p> <p>Bajkiewicz-Grabowska E., 2011, General hydrology, Ed. Science. PWN, Warsaw.</p> <p>Kosowska-Cezak U., Bajkiewicz-Grabowska E., 2009, Basics of hydrometeorology. Ed. Nauk PWN, Warsaw.</p> <p>Choiński A., 2000, Lakes of the globe, PWN, Warsaw</p> <p>A.2. studied independently by the student</p> <p>Duxbury A. C., Duxbury A. B., Sverdrup K. A., 2002, Oceans of the world, PWN, Warsaw.</p> <p>Łomniewski K., 1969, Physical oceanography, PWN, Warsaw.</p> <p>Łomniewski K., Mankowski W., Zaleski J., 1975, Baltic Sea, PWN, Warsaw.</p> <p>Pazdro Z., 1983, General hydrogeology, Ed. Geol., Warsaw.</p> <p>Dynowska I., Tlałka A., 1982, Hydrografia, PWN, Warszawa-Poznań.</p> <p>Dynowska I., 1971 Types of river regimes in Poland, Works of IG UJ, Kraków.</p> <p>Lange W. (ed.), 1993, Methods of physical-limnological research, UG script, Gdańsk.</p> |                               |
|                                 | Supplementary literature | <p>.Choiński A., Kaniecki A., 1996, Waters of the Earth, Great Encyclopedia of World Geography, vol. IV, ed. Kurpisz, Poznań.</p> <p>Czaya, 1987, Rivers of the Earth, PWN, Warsaw.</p> <p>Majewski A., 1992, Oceans and Seas, PWN, Warsaw.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                               |
|                                 | eResources addresses     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                               |

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| Example issues/<br>example questions/<br>tasks being completed | <p>Determination of watersheds in mountainous and young-glacial areas.</p> <p>Characteristic states.</p> <p>Calculation of flow in a selected profile.</p> <p>Relationships between water levels and flows.</p> <p>Determination of values of basic morphometric parameters of the lake.</p> <p>Water balance of a selected catchment.</p> |
| Work placement                                                 | Not applicable                                                                                                                                                                                                                                                                                                                             |

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