University of Gdańsk

# Subject card

| | | | |
|---|---|---|---|
| Subject name and code | Fundamentals of Water Managment - lecture, PG_00201406 | | |
| Field of study | Water Management and Protection of Water Resources | | |
| Date of commencement of studies | October 2026 | 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 practical vocational preparation |
| 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 | practical | Assessment form | exam |
| Conducting unit | Centrum Monitoringu i Ochrony Wód -> Faculty of Oceanography and Geography -> Rector | | |
| Name and surname of lecturer (lecturers) | Subject supervisor | prof. dr hab. inż. Julita Dunalska | |
| | 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 | 1.0 | 19.0 | 50 |

**Subject objectives**

- Demonstrate the role and importance of water management in the life of societies.
- To define the tasks carried out in water management.
- To learn about the principles and methods of water resources management and to evaluate the effectiveness of the implemented water resources management activities.

## Learning outcomes

| Course outcome | Subject outcome | Method of verification |
|---|---|---|
| [GWOZWL3-W01] The student knows and understands in advanced basic biological, physical and chemical processes and phenomena, as well as analyzes their mutual relations and course in relation to natural environment and socio-ecological systems. | Knows the tasks and objectives pursued within the framework of water management. | [SW4] test/exam - oral or written |
| [GWOZWL3-K06] The student has the ability an informed and reliable assessment of the impact of humans on the aquatic environment. | Is ready to solve research tasks as a team and to search for existing knowledge in order to implement them effectively. | [SK1] oral statement/conversation/ discussion |
| [GWOZWL3-W08] The student has an advanced knowledge and understanding of the key concepts and issues within their field of study in English. | Knows and is able to use basic concepts related to the field of study in English. | [SW1] oral statement/ conversation/discussion<br>[SW3] text preparation/written work |
| [GWOZWL3-W02] The student knows and understands the importance of advanced knowledge in the sciences allowing to understand the processes and phenomena occurring in the hydrosphere, as well as knowledge of the social sciences and of the Earth's geographic environment - as a a system of interrelated and interacting components. | Understands the role and importance of water management in the life of society. | [SW4] test/exam - oral or written |
| [GWOZWL3-U04] The student can distinguish between objectives, analyze and evaluate modern strategies for managing environment especially in the context of ecosystem approach to managing human activities in the environment with taking into account relevant law regulations and the indication of administrative bodies responsible for the management of waters and the protection of water resources. | Be able to evaluate the effectiveness of measures implemented in water management. | [SU4] test/exam - oral or written |
| [GWOZWL3-W09] The student knows and understands potential threats and sources of pollution of surface and groundwater resulting from the development of civilization, in particular strong anthropopression. | Knows and understands the risks of irresponsible management of water resources. | [SW4] test/exam - oral or written |

## Subject contents

- Development of water management as a consequence of water resource constraints.
- Tasks and objectives of water management. Status and directions of water management development in Poland.
- Water system versus water management system. Elements of a water management system.
- Instruments of water resources management and the organisation of water management in Poland.
- Water resources (total, inviolable, disposable).
- Water needs of selected branches of national economy and agriculture and water needs of the population.
- The balance of water needs and resources.
- Models of water and sewage management.

## Prerequisites and co-requisites

## Assessment methods and criteria

| Subject passing criteria | Passing threshold | Percentage of the final grade |
|---|---|---|
| test | 51.0% | 100.0% |

| | | |
|---|---|---|
| Recommended reading | Basic literature | - Ciepielowski A., 1999, Podstawy gospodarowania wodą, Wyd. SGGW, Warszawa, 326 s.<br>- Mikulski Z., 1999, Gospodarka wodna, Wyd. Nauk. PWN, Warszawa, 202 s.<br>- Słota H., 1997, Zarządzanie systemami gospodarki wodnej, IMGW, Warszawa, 130 s.<br>- Bajkiewicz-Grabowska E., Mikulski Z., 2010, Hydrologia ogólna, PWN, Warszawa, 340 s.<br>- Byczkowski A., 1979, Hydrologiczne podstawy projektów wodnomelioracyjnych, PWLiR, Warszawa, 401 s.<br>- Ciepielowski A. (red.), 1995, Metodyka zagospodarowania zasobów wodnych w małych zlewniach rzecznych, Wyd. SGGW, Warszawa, 152 s. |
| | Supplementary literature | - Biswas A.K., 1978, Historia hydrologii, PWN, Warszawa, 380 s. |
| | eResources addresses | |
| Example issues/ example questions/ tasks being completed | | |
| Work placement | Not applicable | |

Document generated electronically. Does not require a seal or signature.