University of Gdańsk

Subject card

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|---|---|---|---|
| Subject name and code | Small and Large Scale Water Retention - lecture, PG_00201447 | | |
| Field of study | Water Management and Protection of Water Resources | | |
| Date of commencement of studies | October 2027 | Academic year of realisation of subject | 2028/2029 |
| 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 | 2 | Language of instruction | Polish |
| Semester of study | 4 | 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**

- Understand the role and importance of small and large-scale retention in shaping the water cycle in the natural environment.
- To learn about measures taken to increase water retention in a catchment area
- To understand the importance of small and large retention in reducing the effects of extreme hydrological events
- To become familiar with the methods of rainwater retention

## Learning outcomes

| Course outcome | Subject outcome | Method of verification |
|---|---|---|
| [GWOZWL3-W05] assumptions of the ecosystem approach to management of the environment and human activities in the environment as well as the development directions in the field of applied solutions and scientific research for the protection and restoration of water resources in selected divisions of the national economy. | Understands the principles behind various small and large retention facilities. | [SW4] test/exam - oral or written |
| [GWOZWL3-W04] research techniques, methods and tools currently used in water management and the protection of water resources, in both the natural and social sciences, including basic statistical and IT tools enabling the description, modelling and interpretation of data concerning phenomena and processes occurring in the aquatic environment, as well as tools for describing relationships within socio-ecological systems. | Knows and understands the importance of different forms of water retention and their role in shaping the water cycle at local and regional level. | [SW4] test/exam - oral or written |
| [GWOZWL3-K03] systematic further education and professional development, updating and expand his knowledge and skills, understands the limitations of his own knowledge in the context of civilization progress and recognizes authorities in the professional and scientific environment. | Is ready to critically evaluate his/her knowledge and systematically improve his/her professional development. | [SK1] oral statement/conversation/discussion |

## Subject contents

- Poland's water resources and the need for water retention.
- Water retention and forms of water retention.
- Definition of small retention, its functions and types.
- Extreme phenomena in nature. The role of small and large retention in drought and flood protection.
- Large dam reservoirs - advantages and disadvantages.
- Ways of retaining rainwater.

## Prerequisites and co-requisites

## Assessment methods and criteria

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

## Recommended reading

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|---|---|
| Basic literature | - Kowalczak P., Farat R., Kępińska-Kasprzak M., Kuźnicka M., Magier P.,1997, Hierarchia potrzeb obszarowych małej retencji, Mat. Bad. IMGW, Gospodarka wodna i ochrona wód 19: 1-91.<br>- Mioduszewski W., 2003, Mała retencja: ochrona zasobów wodnych i środowiska naturalnego, Wyd. IMUZ, Falenty, 49 s.<br>- Mioduszewski W., Kaca E., 1996, Potrzeby i możliwości zwiększenia retencji wodnej na obszarach wiejskich, IMUZ, Falenty, 136 s.<br>- Mioduszewski W., Łoś M.J., 2002, Mała retencja w systemie ochrony przeciwpowodziowej kraju, Gospod. Wodna 2: 68-73. |
| Supplementary literature | - Choiński A., 2008, Limnologia fizyczna Polski, Wyd. Nauk. UAM, Poznań, 547 s.<br>- Mioduszewski W., 2006, Małe zbiorniki wodne, IMUZ, Falenty, 127 s. |
| eResources addresses | |

## Example issues/ example questions/ tasks being completed

## Work placement

Not applicable