University of Gdańsk

Subject card

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 2026	Academic year of realisation of subject	2027/2028
Education level	Bachelor's studies	Subject group	Obligatory subject group in the field of study 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] The student has advanced knowledge and understanding of 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] The student is familiar with advanced research techniques, methods and tools currently used in water management and the protection of water resources, in both the natural and social sciences, including advanced 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] The student has the ability systematic further education and professional development, updating and expand their 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

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. - Mioduszewski W., 2003, Mała retencja: ochrona zasobów wodnych i środowiska naturalnego, Wyd. IMUZ, Falenty, 49 s. - Mioduszewski W., Kaca E., 1996, Potrzeby i możliwości zwiększenia retencji wodnej na obszarach wiejskich, IMUZ, Falenty, 136 s. - 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. - Mioduszewski W., 2006, Małe zbiorniki wodne, IMUZ, Falenty, 127 s.
eResources addresses	

Example issues/ example questions/ tasks being completed	
Work placement	Not applicable

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