

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	<ul style="list-style-type: none"> 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-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
	[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-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
Subject contents	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> - 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	<ul style="list-style-type: none"> - 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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