

Subject card

Subject name and code	Fundamentals of water management - lecture, PG_00054175						
Field of study	Water Management and Protection of Water Resources						
Date of commencement of studies	October 2025		Academic year of realisation of subject		2025/2026		
Education level	Bachelor's studies		Subject group		Obligatory subject group in the field of study Subject group related to scientific research 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	1		Language of instruction		Polish		
Semester of study	1		ECTS credits		2.0		
Learning profile	practical		Assessment form				
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		2.0		20.0	52
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-U04] 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-W01] 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] 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-W09] 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
	[GWOZWL3-W02] the importance of 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 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
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. - Mikulski Z., 1999, Gospodarka wodna, Wyd. Nauk. PWN, Warszawa, 202 s. - Słota H., 1997, Zarządzanie systemami gospodarki wodnej, IMGW, Warszawa, 130 s. - Bajkiewicz-Grabowska E., Mikulski Z., 2010, Hydrologia ogólna, PWN, Warszawa, 340 s. - Byczkowski A., 1979, Hydrologiczne podstawy projektów wodnomelioracyjnych, PWLiR, Warszawa, 401 s. - 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	

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