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 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-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 [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-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-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. - 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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