

Subject card

Subject name and code	Water management, PG_00201355						
Field of study	Spatial Management						
Date of commencement of studies	October 2026	Academic year of realisation of subject			2026/2027		
Education level	Master's studies	Subject group			Obligatory subject group in the field of study Subject group related to scientific research in the field of study		
Mode of study	full-time studies	Mode of delivery			at the university		
Year of study	1	Language of instruction			Polish		
Semester of study	2	ECTS credits			4.0		
Learning profile	academic	Assessment form			exam		
Conducting unit	Institute of Socio-Economic Geography and Spatial Management -> Faculty of Social Sciences -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		dr Wojciech Maślanka				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	20.0	0.0	0.0	0.0	50
	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	50		8.0		42.0	100
Subject objectives	<p>1. to demonstrate the role and importance of water management in the life of societies 2. to learn about the principles and methods of water resources management and to assess the effectiveness of the implemented water resources management activities to learn about the principles and methods of water resources management and to evaluate the effectiveness of water resources management activities 3. to prepare for the independent drawing up of a water-economy balance sheet</p>						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[GPMU2_W06] identifies problems and theories in spatial management, taking into account complex dependencies and trends of changes in the natural environment; understands their theoretical and practical significance	Distinguishes between the economic and social needs of water management as well as the requirements related to the protection of the natural environment in accordance with the eco-development policy (conflict of objectives and criteria for assessing the effectiveness of water management activities)	[SW4] test/exam - oral or written
	[GPMU2_W03] understands to a deeper extent, the conditions (natural, social, economic, cultural, legal) of processes taking place in spatial management, with particular emphasis on the specifics of Polish maritime areas and voivodships of northern Poland	Defines and describes the main tasks of water management and explains and explains the objectives pursued by each task	[SW4] test/exam - oral or written
	[GPMU2_U07] performs complex research tasks or expertise in the field of spatial management by interacting with other people, taking a leading role in teams and presenting the results of the research in a written and oral form using specialised terminology	Organises, plans and constructs simple research proceedings in the field of water management	[SU2] presentation/project/paper/report [SU8] observation of student's independent or team work
	[GPMU2_U02] properly selects sources and information derived from them, with particular regard to sources of spatial information, evaluates them critically and interprets them creatively	Analyses and evaluates water resources and needs for water-economic balancing. Compiles the balance of needs and water resources	[SU2] presentation/project/paper/report [SU8] observation of student's independent or team work
[GPMU2_K01] is ready to critically assess the possessed knowledge and received content	Critically assesses the effectiveness of measures on the subject of water management	[SK2] presentation/project/paper/report [SK8] observation of student's independent or team work	
Subject contents	A. Problems of the lecture A.1 Development of water management as a consequence of water resource constraints. Water management: a science and a branch of the national economy. A.2 Tasks and objectives of water management. Status and directions of development of water management in Poland. A.3 Water management systems and instruments of water resources management. A.4 Water balance. Natural and disposable water resources of catchment areas. Water needs of selected sectors of national economy and agriculture. Water needs of the population. A.5 Small retention. Hydrological land reclamation and its effects. Water erosion of soils and its prevention. Hydrological role of forest. A.6 Water quality: water quality classification, water quality assessment methods, water quality indicators and indices. A.7 Instruments of water resources management. B. Problems of exercises B.1 Drawing up a water-economy balance of a small lowland catchment: water resources assessment, water needs assessment, balance of water resources and needs.		
Prerequisites and co-requisites	Ability to extract and synthesise information from multiple sources, working knowledge of GIS software		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Credit work	51.0%	50.0%
	Egzam	51.0%	50.0%
Recommended reading	Basic literature	1. Ciepielowski A., 1999, Podstawy gospodarowania wodą, Wyd. SGGW, Warszawa, 326 s. 2. Lambor J., 1965, Podstawy i zasady gospodarki wodnej, Wyd. KiŁ, Warszawa, 437 s. 3. Mikulski Z., 1999, Gospodarka wodna, Wyd. Nauk. PWN, Warszawa, 202 s. 4. Słota H., 1997, Zarządzanie systemami gospodarki wodnej, IMGW, Warszawa, 130 s. A.2. studiowana samodzielnie przez studenta 1. Bajkiewicz-Grabowska E., Mikulski Z., 2010, Hydrologia ogólna, PWN, Warszawa, 340 s. 2. Borowiak D., 2017, Zasoby i bilans wodny jezior, [w:] Jokiel P., Marszelewski W., Pociask-Karteczka J. (red.) Hydrologia Polski, PWN, Warszawa:223-235. 3. Byczkowski A., 1979, Hydrologiczne podstawy projektów wodnomelioracyjnych, PWLiR, Warszawa, 401 s. 4. Ciepielowski A. (red.), 1995, Metodyka zagospodarowania zasobów wodnych w małych zlewniach rzecznych, Wyd. SGGW, Warszawa, 152 s.	
	Supplementary literature	1. Biswas A.K., 1978, Historia hydrologii, PWN, Warszawa, 380 s. 3. UNESCO, 1978, World Water Balance and Water Resources of the Earth. Studies and Reports in Hydrology No 25, Unesco Press, Paris, 587 s.	
	eResources addresses		

<p>Example issues/ example questions/ tasks being completed</p>	<p>Basic assessment criteria Lecture: A score of min. 51% of the points possible to obtain from the exam written examination covering the material covered in lectures and exercises. Exercises: Project and sub-tasks - timeliness of completion, completeness and correctness of the content, compliance with the given guidelines, clear and legible visualisation of results obtained. A prerequisite for obtaining credit is the completion of all completed assignments and/or projects. In order to pass the exercises, it is required to obtain min. 51% of the total possible number of points for the partial tasks and/or project. Discussion - active participation in a discussion, the ability to undertake a discussion and give answers to the questions and problem tasks posed. Understanding and correct use of hydrological terminology within the subject matter covered in class. A student obtains one mark from the course, which is 50% derived from the mark for the exercises, 50% from the mark for the laboratory exercises and 50% from the mark for the examination/assessment. a pass mark for both the practical and the lecture part of the course.</p>
<p>Work placement</p>	<p>Not applicable</p>

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