

Subject card

Subject name and code	Ordinary extraordinary water, PG_00140227						
Field of study	Historical game design						
Date of commencement of studies	October 2024		Academic year of realisation of subject				
Education level	Bachelor's studies		Subject group		Obligatory subject group in the field of study Optional subject group		
Mode of study	full-time studies		Mode of delivery		e-learning		
Year of study	3		Language of instruction		Polish Polish		
Semester of study	5		ECTS credits		2.0		
Learning profile	academic		Assessment form		credit		
Conducting unit	Department of Hydrology -> Faculty of Oceanography and Geography -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. Joanna Fac-Beneda, prof. UG				
	Teachers		dr hab. Joanna Fac-Beneda, prof. UG				
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: 30.0						
	Additional information:						
	- multimedia lecture - discussion						
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		0.0		20.0	50
Subject objectives	To learn about the philosophy of water and the place and image of water in literature and art. Introducing new views on the physical state of water. Learning about the causes and geographical conditions of water circulation. To assess the size, distribution of water hazards and their resources. To learn about the organization and principles of environmental monitoring, factors that cause water pollution and its condition and quality standards. To gain knowledge of the fractal dimension of nature. To become familiar with global water management problems (including the war for water).						

Learning outcomes	Course outcome	Subject outcome	Method of verification
		K_W03 The student identifies and describes the main research areas and achievements in modern geography (including the latest trends in the development of hydrological research in Poland and abroad), as well as the practical applications of scientific achievements in the field of hydrology K_W11 The student lists and explains the most important issues related to water pollution and contamination on a regional and global scale, and identifies their nature, origins, and possible consequences K_U01 The student uses scientific literature and applies geographical terminology in Polish in the field of hydrology K_U12 The student analyzes and evaluates the causes and course of changes occurring in the aquatic environment across various temporal and spatial scales K_K01 The student has an in-depth awareness of the level of their knowledge and skills and understands the need for continuous personal and professional development K_K04 The student demonstrates responsibility for their own preparation for work	[SK1] oral statement/conversation/discussion [SK4] test/exam - oral or written
Subject contents	Water in philosophical terms. Water in literature and art. Water as a chemical compoundWater as an unusual liquid. Four states of aggregation of water. Availability of water resources in terms of natural and anthropogenic conditions - water deficits and surpluses. Water pollution - pollution outbreaks, water quality and related diseases. Water protection - active and passiveIntegrated Monitoring of the Natural Environment (IMS) - water quality monitoring. Basic hydrotechnical facilities and their impact on the water environment. Elements of water law. Water Framework Directive and directions of water policy in the European Union. GIS and thematic maps as a source of information about water.Fractal dimension of reality - topology and analysis of river networks. Global, regional and local water wars - water as a defensive and offensive weapon.Extreme hydrological phenomena - droughts and floods. Wetlands - small retention program. Water management - virtual water.		

Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	essay	51.0%	100.0%
Recommended reading	Basic literature	- Chelmicki W., 2002, Water. Resources, degradation, protection. Wyd. Nauk PWN, Warsaw - Dynowska I., Tlałka A., 1982, Hydrography, PWN, Warsaw-Poznań - Fac-Beneda J., 2011, Young glacial hydrographic system, Wyd. UG, Gdańsk. - Mikulski Z., 1998, Water management. Wyd. Nauk. PWN, Warsaw - Pociask-Karteczka J., 2003, Catchment. Properties and processes, UJ, Krakow - Towards efficient use of water resources in Europe, EEA Report No 1/2012, Copenhagen, http://www.eea.europa.eu - Sultana F., Loftus A., 2012, The right to Water. Politics, governance and social struggles, Polish Humanitarian Action, Warszawa - Environment of Europe 2010 - State and Outlook. Synthesis, EEA, Copenhagen, http://www.eea.europa.eu - Allen J. D., 1998, Ecology of flowing waters, Wyd. Nauk. PWN, Warsaw. - Bertalanffy L., 1984, General theory of systems: fundamentals, development, applications, PWN, Warsaw. - Ciepielowski A., 1999, Fundamentals of water management. Wyd. SGGW, Warsaw - DIRECTIVE 2000/60/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 23 October 2000 establishing a framework for Community action in the field of water policy - Morisawa M., 1985, Rivers, Longman, New York. - Soczyńska U., 1990, Hydrological processes, PWN, Warsaw.	
	Supplementary literature	- Choiński A., Kaniecki A., 1996, Waters of the Earth, Great Encyclopedia of World Geography vol. IV, Kurpisz Publishers, Poznań. - Kajak Z., 1979, Eutrophication of waters, PWN, Warsaw. - Peitgen H.O., Jürgens H., Saupe D., 2002, Limits of chaos - fractals, part 1 and 2, PWN, Warsaw. - Tomiałojć L., Drabiński A. (ed), 2005, Environmental aspects of water management, KOP PAN, Wrocław	
	eResources addresses		
Example issues/ example questions/ tasks being completed	Theme free from the scope of the material.		
Work placement	Not applicable		

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