



Subject card

Subject name and code	, PG_00059124						
Field of study	Environmental Engineering						
Date of commencement of studies	October 2023		Academic year of realisation of subject		2026/2027		
Education level	first-cycle 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	Part-time studies		Mode of delivery		at the university		
Year of study	4		Language of instruction		Polish		
Semester of study	7		ECTS credits		2.0		
Learning profile	general academic profile		Assessment form		assessment		
Conducting unit	Department of Geotechnical and Hydraulic Engineering -> Faculty of Civil and Environmental Engineering -> Faculties of Gdańsk University of Technology						
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. inż. Tomasz Kolerski				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	10.0	5.0	0.0	0.0	0.0	15
	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	15		1.0		34.0	50
Subject objectives	The aim of the course is to introduce students to issues related to water management, including flood risk management, drought mitigation, and water resources management within river basins.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[K6_U03] can prepare documentation regarding the implementation of an engineering task/project and prepare a text or presentation including a discussion of the results of the implementation	The student is able to prepare documentation related to the implemented task, including discussion of the results and formulation of conclusions.	[SU5] Assessment of ability to present the results of task
	[K6_W04] possesses elementary knowledge in the field of land mechanics, ground science, land reclamation and geotechnics; has basic knowledge about the composition of air, water and soil, environmental pollution and processes responsible for their formation and ways to reduce them, knows the principles and organization of sustainable water management	The student has knowledge of modern methods of sustainable water resources management.	[SW1] Assessment of factual knowledge
	[K6_W05] knows the theoretical basis of hydromechanics and its practical models, necessary to solve technical problems in the field of environmental engineering (sanitary engineering, water melioration, water management and flood protection, pollution spread)	The student is able to calculate the discharge capacity of outlet and spillway structures of damming facilities or drainage systems. The student is able to calculate the storage capacity of a retention basin.	[SW3] Assessment of knowledge contained in written work and projects
	[K6_U08] can use properly selected methods and devices of hydraulics and hydrology, enabling determination of basic quantities characterizing the flow of water in open channels and rivers, pipelines and flow objects of environmental engineering	The student is able to select appropriate methodologies and perform calculations related to determining the active storage capacity and permanent retention of a reservoir; The student is able to determine characteristic flows in both gauged and ungauged catchments.	[SU1] Assessment of task fulfilment
	[K6_U16] can, when formulating and solving engineering tasks in environmental engineering, evaluate, select and apply appropriate methods and tools, recognize their non-technical aspects, including environmental, economic and legal aspects	The student selects rational solutions for water management, ensuring the good ecological status and potential of waters, in compliance with the applicable legal framework.	[SU2] Assessment of ability to analyse information
Subject contents	Course content – lecture Polands Water Resources Water Management Plan Retention and Reservoirs as Key Tools for Water Resources Management Drought Mitigation Plan Flood Risk Management		
	Course content – exercises Calculation of the Flood Storage Capacity of a Retention Reservoir under Fixed (Non-Adjustable) and Semi-Flexible Water Management Conditions		
Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Report	60.0%	30.0%
	final test	60.0%	70.0%

Recommended reading	Basic literature	Kolerski T. Praktyczne aspekty gospodarki wodnej w projektowaniu zbiorników retencyjnych. Wydawnictwo Politechniki Gdańskiej, Gdańsk. 2014. Gospodarowanie wodami. Kluczowe wyzwania w ramach nowego cyklu planistycznego Wolters Kluwer Polska, 2020
	Supplementary literature	Rozporządzenie Ministra Infrastruktury z dnia 15 lipca 2021 r. w sprawie przyjęcia Planu przeciwdziałania skutkom suszy VADEMECUM OCHRONY PRZECIWPOWODZIOWEJ, Stefan Bednarczyk Teresa Jarzębińska Stanisław Mackiewicz Elżbieta Wołoszyn Gdańsk. grudzień 2006
	eResources addresses	
Example issues/ example questions/ tasks being completed	Describe the retention-related measures planned within the Drought Mitigation Plan. Define water management of the reservoir during a flood.	
Practical activities within the subject	Not applicable	

Document generated electronically. Does not require a seal or signature.