



## Subject card

Subject name and code	WATER RESOURCES MANAGEMENT, PG_00060007						
Field of study	Environmental Engineering						
Date of commencement of studies	February 2025		Academic year of realisation of subject		2025/2026		
Education level	second-cycle studies		Subject group		Obligatory subject group in the field of study		
Mode of study	Full-time studies		Mode of delivery		at the university		
Year of study	1		Language of instruction		English		
Semester of study	2		ECTS credits		4.0		
Learning profile	general academic profile		Assessment form		assessment		
Conducting unit	Faculty of Civil and Environmental Engineering						
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. inż. Tomasz Kolerski				
	Teachers						
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	15.0	0.0	15.0	0.0	60
	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	60		5.0		38.0	103
Subject objectives	Advances and practice of water resources management						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[K7_U01] can obtain information from literature, databases and other sources; can integrate the obtained information, interpret and critically evaluate them, draw conclusions, and formulate and comprehesively justify the opinions		The student is able to use raw data and process this data to obtain the necessary input information to solve the task. The student is able to use the IMGW databases		[SU2] Assessment of ability to analyse information		
	K7_U10		The student is able to design the permanent retention capacity of a retention tank		[SU3] Assessment of ability to use knowledge gained from the subject		
	K7_U06		The student is able to calculate the flow routing using the linear reservoir model		[SU3] Assessment of ability to use knowledge gained from the subject		
	K7_U03		The student is able to prepare a report on the completion of the task		[SU5] Assessment of ability to present the results of task		
	K7_W09		The student has knowledge about hydrological processes occurring in a natural catchment		[SW1] Assessment of factual knowledge		
Subject contents	A study of the advances engineering involved in analyzing and managing the quantity of water in natural and developed systems. The course illustrate the roles of interdisciplinary teamwork, partnerships, and public involvement in planning and management processes and present the elements of integrated water resources planning and management						
Prerequisites and co-requisites	This course is designed to students with the basic knowledge of principles of water resources planning and management						
Assessment methods and criteria	Subject passing criteria		Passing threshold		Percentage of the final grade		
	test		60.0%		50.0%		
	homework		60.0%		50.0%		

Recommended reading	Basic literature	<ol style="list-style-type: none"> <li>1. Cech, T., V., <i>Principles of Water Resources</i>, John Wiley &amp; Sons, Inc. 2002</li> <li>2. Dzurik, A., A., <i>Water Resources Planning</i> (3rd ed), Rowman &amp; Littlefield Pub. Inc., 2003.</li> <li>3. Mays L. W., <i>Water Resources Engineering</i>, 2005 Edition John Wiley &amp; Sons, Inc.</li> </ol>
	Supplementary literature	<ol style="list-style-type: none"> <li>1. Chow, V.T., <i>Open-channel Hydraulics</i>, McGraw-Hill, 1959</li> <li>2. Henderson, F., M., <i>Open Channel Flow</i>, Prentice Hall, 1966</li> <li>3. Shen H. T., <i>Mathematical Modeling of River Ice Processes</i>, Cold Regions Science and Technology, Volume 62, Issue 1, June 2010, Pages 3-13</li> <li>4. Young D. F., Munson B R Okiishi T. H., Huebsch W. W., <i>A Brief Introduction to Fluid Mechanics</i>, John Willey and Sons, Inc. 2007 (or later edition)</li> </ol>
	eResources addresses	Adresy na platformie eNauczanie:
Example issues/ example questions/ tasks being completed	Rainfall exces and surface outflow from the basin  Thermal budget of the snow surface  Flow routing	
Work placement	Not applicable	

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