



Subject card

Subject name and code	WATER RESOURCES MANAGEMENT, PG_00060007									
Field of study	Environmental Engineering									
Date of commencement of studies	February 2024	Academic year of realisation of subject			2024/2025					
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_W09	The student has knowledge about hydrological processes occurring in a natural catchment			[SW1] Assessment of factual knowledge					
	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_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_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_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 comprehensively 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					
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					
	homework	60.0%			50.0%					
	test	60.0%			50.0%					
Recommended reading	Basic literature	1. Cech, T., V., <i>Principles of Water Resources</i> , John Wiley & Sons, Inc. 2002 2. Dzurik, A., A., <i>Water Resources Planning</i> (3rd ed), Rowman & Littlefield Pub. Inc., 2003. 3. Mays L. W., <i>Water Resources Engineering</i> , 2005 Edition John Wiley & Sons, Inc.								

	Supplementary literature	<ol style="list-style-type: none"> 1. Chow, V.T., <i>Open-channel Hydraulics</i>, McGraw-Hill, 1959 2. Henderson, F., M., <i>Open Channel Flow</i>, Prentice Hall, 1966 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 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)
	eResources addresses	Adresy na platformie eNauczanie:
Example issues/ example questions/ tasks being completed	<p>Rainfall excess and surface outflow from the basin</p> <p>Thermal budget of the snow surface</p> <p>Flow routing</p>	
Work placement	Not applicable	