



Subject card

Subject name and code	, PG_00059984						
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 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		2.0		
Learning profile	general academic profile		Assessment form		assessment		
Conducting unit	Department of Geotechnical and Hydraulic Engineering -> Faculty of Civil and Environmental Engineering						
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. inż. Tomasz Kolarski				
	Teachers						
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	15.0	0.0	0.0	0.0	30
	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	30		5.0		19.0	54
Subject objectives	The aim of the course is to acquaint the student with water resources management in Poland based on the main planning documents						
Learning outcomes	Course outcome	Subject outcome			Method of verification		
	K7_W01	Basics of using Quantum GIS (QGIS)			[SW3] Assessment of knowledge contained in written work and projects		
	K7_U10	Analysis of the operation of the Kiełpinek reservoir during the flood surge			[SU4] Assessment of ability to use methods and tools		
	K7_W09	Transformation of rainfall into runoff in a natural catchment and including storm sewage			[SW3] Assessment of knowledge contained in written work and projects		
	K7_U06	During the classes, the basic functionalities of the QGIS program will be presented, enabling the analysis of spatial data regarding the catchment area: creating and editing vector layers creating and editing layers from measurement points loading WMS layers analysis of the digital terrain model			[SU4] Assessment of ability to use methods and tools		

Subject contents	<ol style="list-style-type: none"> <li>1. Water resources management in Poland</li> <li>2. Planned investment of the E40 waterway as an example of integrated water resources management</li> <li>3. Drought Counteraction Plan</li> <li>4. Catalog of actions; Examples of water retention actions</li> <li>5. Maintenance works on surface waters</li> <li>6. Analysis of pressure and assessment of their impact on the condition of surface waters</li> <li>7. Second update of the Water Management Plan (2aPGW);</li> <li>8. 2aPGW: Catalog of action</li> <li>9. Integrated actions to ensure good ecological potential of waters</li> <li>10. Management of water resources in winter, Winter floods</li> <li>11. Heat balance of snow cover</li> <li>12. Melting of the snow</li> <li>13. Siarzewo dam; example of a multi-purpose object</li> </ol>		
Prerequisites and co-requisites	Hydrology, Hydraulics, Water Resources Management		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	project	60.0%	50.0%
	test	60.0%	50.0%
Recommended reading	Basic literature	<ul style="list-style-type: none"> <li>• Ustawa Prawo Wodne</li> <li>• Katalog dobrych praktyk w zakresie robót hydrotechnicznych i prac utrzymaniowych wraz z ustaleniem zasad ich wdrażania, Kraków 2018</li> <li>• II aktualizacja Planu Gospodarowania Wodami</li> <li>• Plan Przeciwdziałania Skutkom Suszy</li> </ul>	
	Supplementary literature	<ul style="list-style-type: none"> <li>• Water Framework Directive</li> </ul>	
	eResources addresses	Adresy na platformie eNauczanie:	
Example issues/ example questions/ tasks being completed			
Work placement	Not applicable		