Title:	**Hydrostructures pressure on the environment**
Lecture hours:	15
Study period: (summer/winter)	Winter, summer
Number of credits:	5
Assessment methods:	Graded credit
Language of instruction:	English
Prerequisites:	Course for the Earth and Environmental Sciences, especially for geography students
Course content:	Lecture part: 1. Introduction to fluvial geomorphology. 2. Impact of human activities on the water, incl. hydrostructures: damming and hydropower plants, weirs, river banks strengthening, groynes, etc. 2. Influence of hydrostructures on water flow dynamics, water management, water quality, sediment dynamics, (micro)climate, touristic use of water, etc. Field part: 1. Research excursion on selected artificial water bodies (river, lake).
Learning outcomes:	K01 – students know the impact of human activities on water bodies; K02 – student knows the goals of the hydrostructure construction; K03 – student knows the principles of hydrostructures functioning; S01 – student can determine the impact of a hydrostructures on the environment;
References:	The literature on the subject will be presented during the course. • Szatten D., Brzezińska M., Bosino A., 2023, New sediment continuum measurements in the Brda River (Poland): the results of the functioning of the 50-year Koronowo dam, Journal of Soils and Sediments (2023) DOI:https://doi.org/10.1007/s11368-023-03582-z • Szatten D., Habel M., Babiński Z., 2021, Influence of Hydrologic Alternation on Sediment, Dissolved Load and Nutrient Downstream Transfer Continuity in a River: Example Lower Brda River Cascade Dams (Poland), Resources, 10(7), 70; https://doi.org/10.3390/resources10070070 • Habel M., Szatten D., Babiński Z., Nadolny G., 2021, Sediment Management in River Basins: An Essential Element of the River Basin Management Plans. In: Zeleňáková M., Kubiak-Wójcicka K., Negm A.M. (eds) Quality of Water Resources in Poland. Springer Water. Springer, Cham. https://doi.org/10.1007/978-3-030-64892-3_12 • Szatten D., Habel M., 2020, E ffects of Land Cover Changes on Sediment and Nutrient

	Balance in the Catchment with Cascade-Dammed Waters, Remote Sensing, 12(20), 3414; https://doi.org/10.3390/rs12203414 • Obodovskyi O., Habel M., Szatten D., Rozlach, Z., Babiński Z., Maerker M., 2020, Assessment of the Dnieper Alluvial Riverbed Stability Affected by Intervention Discharge Downstream of Kaniv Dam. Water, 12(4), 1104. https://doi.org/10.3390/w12041104 • Podgórski Z., Szatten D., 2020, Changes in the Dynamics and Nature of Sedimentation in Mill Ponds as an Indicator of Environmental Changes in a Selected Lake Catchment (Chełmińskie Lake District, Poland), Water, 12(1), p.268; DOI:doi.org/10.3390/w12010268 • Szatten D., Habel M., Babiński Z., Obodovskyi O., 2019, The Impact of Bridges on the Process of Water Turbidity on the Example of Large Lowland Rivers, J. Ecol. Eng. 2019; 20(10):155–164, DOI: 10.12911/22998993/113148 • Szatten D., Habel M., Pellegrini L., Maerker M., 2018, Assessment of Siltation Processes of the Koronowski Reservoir in the Northern Polish Lowland Based on Bathymetry and Empirical Formulas, WATER, 10(11) p.1681, DOI: doi.org/10.3390/w10111681 • Internet
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