GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Hydraulics and hydrology, PG_00041517		
Field of study	Civil Engineering		
Date of commencement of studies	February 2025	Academic year of realisation of subject	2024/2025
Education level	second-cycle studies	Subject group	Optional subject group 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	English
Semester of study	1	ECTS credits	2.0
Learning profile	general academic profile	Assessment form	assessment
Conducting unit	Department of Hydraulic Engineering -> 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	15.0	15.0	15.0	0.0	0.0	45

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	45	5.0	0.0	50

Subject objectives

Students should master the following capacities:

- analysis of hydrological processes in catchment,

- determination of open-channel hydraulic parameters, oriented towards problems of hydroengineering,

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K7_U10] can analyse complicated environmental loads acting on a construction; can apply proper processes to design marine and hydroengineering constructions taking into consideration hydrological and hydraulical impact	Student knows how to calculate surface runoff base on the UH theory, Knows ho to determine prameters of hydraulic structures base on hydraulic calcualtions	[SU1] Assessment of task fulfilment
[K7_W11] has deep knowlege of marine and inland hydotechnical constructions; has knowledge about hydraulical and hydrological constrains in design and exploitation of buildings	Student knows how to calculate hydarulics of hydroengineering structures, Knows procedures to calculate effective rainffall, knows how to calcualte flood storage of the retention reservoirs	[SW1] Assessment of factual knowledge

Subject contents

LECTURE Hydrological cycle. Hydrological proprieties of catchment area. Parameters of the river catchment. The water balance of the river catchment. Run-off. Surface run-off. Unit hydrogram. Flow in rivers. Storm flood and characteristic flows in rivers. Open channel steady and unsteady flow. Hydrologic statistics. Ice phenomena on rivers. CLASSES and LAB Hydraulic and hydrological computations and some laboratory exercises on on hydrological processes.

Prerequisites and co-requisites

No requirements

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
Lab reports	60.0%	30.0%
Midterm colloquium	60.0%	40.0%
Final test	60.0%	30.0%

Recommended reading	Basic literature	1. Van Te Chow et al., Applied Hydrology, McGRAW-HILL, 1988 2. Van Te Chow, Open-Channel Hydraulics, McGRAW-HILL, 1957 3. Mays, L. Water Resources Engineering, Willey, 2006
	Supplementary literature	1. Czetwertyński E., Utrysko B., Hydraulika i hydromechanika, PWN 1986 2. Kubrak J., Hydraulika techniczna, SGGW 1998 3. Byczkowski A., Hydrologia, SGGW 1996 4. Ozga-Zielińska M., Brzeziński J.: Hydrologia stosowana, Wydawnictwo Naukowe PWN Warszawa,1994.
	eResources addresses	Adresy na platformie eNauczanie:
Example issues/ example questions/ tasks being completed	- analysis of hydrological processes in catchment, - determination of open-channel hydraulic parameters.	
Work placement	Not applicable	

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