

(faculty stamp)

COURSE DESCRIPTION

Z1-PU7

WYDANIE N1

Strona 1 z 1

1. Course title: HYDRAULIC ENGINEERING/BUDOWNICTWO WODNE		2. Course code		
3. Validity of course description:				
4. Level of studies: BA, BSc programme -1 st cycle of higher education				
5. Mode of studies: intramural studies				
6. Field of study: Environmental Engineering		(FACULTY SYMBOL) RIE		
7. Profile of studies: all academic				
8. Programme: Water and Wastewater systems				
9. Semester: 7				
10. Faculty teaching the course: Institute of Water and Wastewater Engineering				
11. Course instructor: dr inż Łukasz Skórkowski				
12. Course classification:				
13. Course status: compulsory /elective				
14. Language of instruction: English				
15. Pre-requisite qualifications: Hydrology and earth science, construction, technical drawing, mechanics of fluids, water supply and sewerage systems.				
16. Course objectives: to acquaint the student with water structures and small water structures.				
17. Description of learning outcomes:				
Nr	Learning outcomes description	Method of assessment	Teaching methods	Learning outcomes reference code
1.	Student has the knowledge of various types of water structures.	test	lecture	K_W16++ K_W20++
2.	Student is able to characterize different types of hydraulic structures.	test	lecture	K_W17+ K_W18++ K_W20++
3.	Student uses the hydrological information in the conceptual design of small water structures.	Project execution	project	K_U23 (++) K_U26 (++) K_K03+
18. Teaching modes and hours Lecture 15h / Project 15h				
19. Syllabus description: Lecture: Water structures - planning, design and operation of hydraulic structures. The role of hydraulic structures in environmental engineering. The characteristics of selected types of hydraulic structures. Elements of river engineering. Materials used in hydraulic structures construction. Project: The concept design of small hydraulic structure.				
20. Examination: No				

21. Primary sources:

(1) M. Kielbik: Budownictwo wodne ,t. 2,Państwowe Wyd. Rolnicze i Leśne, Warszawa, 1984.(2)A. Ciepeliowski, T. Kiciński : Budownictwo wodne, cz. 1.Wyd. Szkolne i Pedagogiczne, Warszawa,1990.(3) E. Zawada, A. Żbikowski: Budownictwo wodne, cz. 2.Wyd. Szkolne i Pedagogiczne, Warszawa,1991.(4) A. Arkuszewski, T. Kiciński, C. Romańczyk, A. Żbikowski :Budownictwo wodne, cz.3.Wyd. Szkolne i Pedagogiczne, Warszawa,1991, (5) Suszczewski K.: Ujęcia wody powierzchniowej. Arkady, Warszawa, 1968.

22. Secondary sources:

(1) K. Fanti i inn.: Budowle piętrzące, Arkady, Wątrszawa, 1972. (2)A. Byczkowski: Hydrologiczne podstawy projektów wodnomelioracyjnych, Państwowe Wyd. Rolnicze i Leśne, Warszawa, 1979.(3) L. Dąbkowski, J. Skibiński, A. Żbikowski: Hydrauliczne podstawy projektów wodnomelioracyjnych, Państwowe Wyd. Rolnicze i Leśne, Warszawa, 1982. (5) W. Jankowski: Budowle wodno-melioracyjne, podstawy projektowania, Arkady, Warszawa, 1957.

23. Total workload required to achieve learning outcomes

Lp.	Teaching mode :	Contact hours / Student workload hours
1	Lecture	15/30
2	Classes	0/0
3	Laboratory	0/0
4	Project	15/30
5	BA/ MA Seminar	/
6	Other	/
	Total number of hours	/

24. Total hours: 90**25. Number of ECTS credits: 3****26. Number of ECTS credits allocated for contact hours: 2****27. Number of ECTS credits allocated for in-practice hours (laboratory classes, projects): 1****26. Comments:**

Approved:

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(date, Instructor's signature).....
(date, the Director of the Faculty Unit signature)