



MODULE SPECIFICATION

Module code	
Module title in Polish	Ujęcia wód powierzchniowych
Module title in English	Surface Water Intakes
Module running from the academic year	2016/2017

A. MODULE IN THE CONTEXT OF THE PROGRAMME OF STUDY

Field of study	Environmental Engineering
Level of qualification	first cycle (first cycle, second cycle)
Programme type	academic (academic/practical)
Mode of study	full-time (full-time/part-time)
Specialism	Water Supply, Treatment of Wastewater and Solid Waste
Organisational unit responsible for module delivery	Department of Piped Utility Systems
Module co-ordinator	Urszula Kubicka, PhD, Eng.
Approved by:	Prof. Andrzej Kuliczkowski, PhD hab., Eng.

B. MODULE OVERVIEW

Module type	programme-specific module (core/programme-specific/elective HES*)
Module status	optional module (compulsory/optional)
Language of module delivery	Polish/English
Semester in the programme of study in which the module is taught	semester 6
Semester in the academic year in which the module is taught	summer semester (winter semester/summer semester)
Pre-requisites	None (module code/module title, where appropriate)
Examination required	No (Yes/No)
ECTS credits	1

* elective HES – elective modules in the Humanities and Economic and Social Sciences

Mode of instruction	lectures	classes	laboratories	project	others
Total hours per semester	15				



C. LEARNING OUTCOMES AND ASSESSMENT METHODS

Module aims	The aim of the module is to familiarise students with general knowledge on building structures and devices of surface water intakes, the principles of design, exploitation problems, and the impact on the natural environment.
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Module outcome code	Module learning outcomes	Mode of instruction (l/c/lab/p/ others)	Corresponding programme outcome code	Corresponding discipline-specific outcome code
W_01	A student has knowledge about the types and parameters of surface water and the factors affecting water quality and variability of their condition.	I	IŚ_W09 IŚ_W11	T1A_W03 T1A_W04 T1A_W05 T1A_W06 T1A_W07
W_02	A student knows the solutions, equipment and constructions to enable recognition of flowing and standing surface waters of different capacities.	I	IŚ_W09 IŚ_W15	T1A_W03 T1A_W04 T1A_W05 T1A_W06 T1A_W07
U_01	A student can give examples of approaches applicable to intake the water flowing in streams, rivers and natural reservoirs.	I	IŚ_U15	T1A_U07 T1A_U10 T1A_U14 T1A_U15
K_01	A student is aware of constant progress in the field of environmental engineering; a student also understands the necessity of continuous self-education.	I	IŚ_U03 IŚ_U09	T1A_U01 T1A_U02 T1A_U04

Module content:

1. Topics to be covered in the lectures

No.	Topics	Module outcome code
1-2	Types of surface water, the parameters of rainwater, flowing and standing surface water.	W_01 U_02
3-4	Material and design solutions applied in surface water intakes.	W_02 U_01 K_01
5-9	Flowing surface water intakes - construction of coastal water intakes; stream water intakes, river bank water intakes, tower water intakes. The weir and barricades to dam up water	W_01 W_02 U_01 K_01
10-12	Bottom, under the sea bottom, manhole, drainage water intakes. Construction, working principle, operation.	W_01 W_02 U_01 K_01
13-15	The suitability of natural and artificial reservoir to water supply. Protection zones. Standing water intakes.	W_02 W_02 U_01 K_01

Assessment methods



Module outcome code	Assessment methods <i>(Method of assessment; for module skills – reference to specific project, laboratory and similar tasks)</i>
W_01	A test
W_02	A test
U_01	A test
K_01	Participation in the discussion during the lecture



D. STUDENT LEARNING ACTIVITIES

ECTS summary		
	Type of learning activity	Study time/ credits
1	Contact hours: participation in lectures	15
2	Contact hours: participation in classes	
3	Contact hours: participation in laboratories	
4	Contact hours: attendance at office hours (2-3 appointments per semester)	2
5	Contact hours: participation in project-based classes	
6	Contact hours: meetings with a project module leader	
7	Contact hours: attendance at an examination	
8		
9	Number of contact hours	17 <i>(total)</i>
10	Number of ECTS credits for contact hours <i>(1 ECTS credit = 25-30 hours of study time)</i>	0.68
11	Private study hours: background reading for lectures	4
12	Private study hours: preparation for classes	
13	Private study hours: preparation for tests	4
14	Private study hours: preparation for laboratories	
15	Private study hours: writing reports	
16	Private study hours: preparation for a final test in laboratories	
17	Private study hours: preparation of a project/a design specification	
18	Private study hours: preparation for an examination	
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20	Number of private study hours	8 <i>(total)</i>
21	Number of ECTS credits for private study hours <i>(1 ECTS credit = 25-30 hours of study time)</i>	0.32
22	Total study time	25
23	Total ECTS credits for the module <i>(1 ECTS credit = 25-30 hours of study time)</i>	1
24	Number of practice-based hours <i>Total practice-based hours</i>	
25	Number of ECTS credits for practice-based hours <i>(1 ECTS credit = 25-30 hours of study time)</i>	

E. READING LIST

References	<ol style="list-style-type: none"> 1. Brikké F., Bredero M.: Linking technology choice with operation and maintenance in the context of community water supply and sanitation, World Health Organization and IRC Water and Sanitation Centre Geneva, Switzerland, 2003 2. Arasmith Consulting Resources Inc.: Introduction to Small Water Systems, A Course for Level 1 Operators, Alaska, 2014
Module website	