



### MODULE SPECIFICATION

Module code	
Module title in Polish	Instalacje sanitarne 2
Module title in English	Sanitary Systems 2
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	Sanitary Pipelines and Systems
Organisational unit responsible for module delivery	Department of Piped Utility Systems
Module co-ordinator	Justyna Lisowska, PhD, Eng.
Approved by:	Prof. Andrzej Kuliczowski, 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	<b>Polish/English</b>
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 (No/Yes)
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

<b>Module aims</b>	The aim of the module is to acquire knowledge as regards water fire protection as well as rainwater disposal installations (together with the ability of designing them, i.e. the elements and materials of installations, the principles of designing and making them).
--------------------	--

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 knows the types and elements of water fire protection installations.	l	IS_W10	T1A_W04 T1A_W05 T1A_W06 T1A_W07
W_02	A student knows the materials and fittings applied in water fire protection installations (or the installations of disposing of rainwater).	l	IS_W06	T1A_W03 T1A_W04 T1A_W05 T1A_W07
W_03	A student knows the principles of calculating the selected water fire protection installations as well as simple installations to dispose of rainwater.	l	IS_W10	T1A_W04 T1A_W05 T1A_W06 T1A_W07
U_01	A student can design the selected elements of water fire protection installations (together with the installations to dispose of rainwater).	l	IS_U19	T1A_U03 T1A_U05 T1A_U07 T1A_U08 T1A_U09 T1A_U10 T1A_U11 T1A_U13 T1A_U14 T1A_U15 T1A_U16
U_02	A student can select appropriate materials for the designed installation elements.	l	IS_U15	T1A_U07 T1A_U10 T1A_U14 T1A_U15
K_01	A student individually improves and broadens his/her knowledge as regards fire protection as well as rainwater disposal installations.	l	IS_K03	T1A_K01 T1A_K02 T1A_K04
K_02	A student follows according to a professional code of conduct.	l	IS_K08	T1A_K05

#### Module content:

1. Topics to be covered in the lectures

No.	Topics	Module outcome code
1	Familiarising students with the syllabus of the lectures, the form of conducting the classes as well as the conditions of obtaining a credit. Issuing a reading list connected with the subject. The division of fire protection installations.	W_01 K_01
2	Hydrant installations (basic elements, types, principle of operation, guidelines of application and designing).	W_01 W_02 W_03 U_01 U_02 K_01 K_02



3	Sprinkler installations (basic elements, types, principle of operation, and guidelines of application).	W_01 W_02 U_02 K_01 K_02
4	Sprinkler installations and water curtains.	W_01 W_02 U_02 K_01 K_02
5/6	Design flow of rainwater.	W_03 U_01 K_01 K_02
7/8	Dimensioning rainwater installation.	W_02 W_03 U_01 U_02 K_01 K_02

### The methods of assessing teaching results

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
W_03	A test
U_01	A test
U_02	A test
K_01	A test. Observation of students work during the lecture
K_02	Participation in the discussion during the lecture. Observation of students work 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)	1
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	<b>Number of contact hours</b>	<b>16</b> <i>(total)</i>
10	<b>Number of ECTS credits for contact hours</b> <i>(1 ECTS credit = 25-30 hours of study time)</i>	<b>0.64</b>



11	Private study hours: background reading for lectures	4
12	Private study hours: preparation for classes	
13	Private study hours: preparation for tests	5
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	
19		
20	<b>Number of private study hours</b>	<b>9</b> <i>(total)</i>
21	<b>Number of ECTS credits for private study hours</b> <i>(1 ECTS credit =25-30 hours of study time)</i>	<b>0.36</b>
22	<b>Total study time</b>	<b>25</b>
23	<b>Total ECTS credits for the module</b> <i>(1 ECTS credit =25-30 hours of study time)</i>	<b>1</b>
24	<b>Number of practice-based hours</b> <i>Total practice-based hours</i>	
25	<b>Number of ECTS credits for practice-based hours</b> <i>(1 ECTS credit =25-30 hours of study time)</i>	

### E. READING LIST

References	<ol style="list-style-type: none"><li>1. Panchdhari A.C.: Water Supply and Sanitary Installations. 2th edition, New Age International, 2000, p.223</li><li>2. <a href="#">A.C. Panchdhari</a> Water Supply And Sanitary Installations, New Age International, 2005 p. 232</li><li>3. A.F.E. Wise and J.A. Swaffield, Water, Sanitary and Waste Services for Buildings, Taylor &amp; Francis, 2012</li></ol>
Module website	