



MODULE SPECIFICATION

Module code	
Module title in Polish	Niekonwencjonalne systemy kanalizacyjne
Module title in English	Non – standard sewage systems
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	Emilia Kuliczowska, PhD hab., Eng.
Approved by:	prof. Andrzej Kuliczowski, PhD hab., Eng.

B. MODULE OVERVIEW

Module type	programme - specific (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 acquaint students with the issues concerning the structure and exploitation of unconventional sewage systems on the basis of deep and gravity sewage system.
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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 knows the principle of operation and application of gravity sewage system.	I	IŚ_W09	T1A_W03 T1A_W04 T1A_W05 T1A_W06 T1A_W07
W_02	A student is knowledgeable about various materials and objects used in gravity sewage system.	I	IŚ_W06	T1A_W03 T1A_W04 T1A_W05 T1A_W07
W_03	A student is acquainted with the structure and exploitation conditions of a relief sewage system.	I	IŚ_W09 IŚ_W15	T1A_W03 T1A_W04 T1A_W05 T1A_W06 T1A_W07
W_04	A student knows the principles of operation and application of a deep sewage system.	I	IŚ_W09	T1A_W03 T1A_W04 T1A_W05 T1A_W06 T1A_W07
W_05	A student has knowledge on various materials and objects applied in a relief sewage system.	I	IŚ_W06	T1A_W03 T1A_W04 T1A_W05 T1A_W07
W_06	A student knows the structure and exploitation conditions of a relief sewage system.	I	IŚ_W09 IŚ_W15	T1A_W03 T1A_W04 T1A_W05 T1A_W06 T1A_W07
U_01	A student can obtain information from databases, literature on the subject and other sources. A student can also integrate the obtained information, interpret it, draw conclusions, and justify his/her opinions.	I	IŚ_U02	T1A_U01 T1A_U05 T1A_U07
U_02	A student has the ability of self-education, e.g. in order to raise his/her professional competences.	I	IŚ_U07	T1A_U05
U_03	A student can select appropriate materials used to build objects on a deep and gravity sewage system.	I	IŚ_U15	T1A_U07 T1A_U10 T1A_U14



				T1A_U15
K_01	A student is aware of the necessity of raising his/her professional and personal competences. A student individually improves and broadens his/her knowledge in terms of modern processes and technologies which can be applied in a deep or gravity sewage system.	W	IŚ_K03	T1A_K01 T1A_K02 T1A_K04
K_02	A student understands the significance of a technological progress and the necessity of implementing new technical solutions in sewage systems; a student understands non-technical aspects of engineering activity.	W	IŚ_K09	T1A_K02

Module content:

1. Topics to be covered in the lectures

No.	Topics to be covered in the lectures	Module outcome code
1-3	Relief sewage system (the principle of operation and range of application.	W_01 U_01 U_02 K_01 K_02
4-5	Network materials and objects on relief sewage system.	W_02 U_01 U_02 U_03 K_01 K_02
6-7	The structure and exploitation of a relief sewage system.	W_03 U_01 U_02 K_01 K_02
8-10	Relief sewage system (the principle of operation and principle of operation).	W_04 U_01 U_02 K_01 K_02
11-12	Network materials and objects on deep sewage system.	W_05 U_01 U_02 U_03 K_01 K_02
13-15	The structure and exploitation of a deep sewage system.	W_06 U_01 U_02 K_01 K_02

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
W_03	A test
W_04	A test
W_05	A test
W_06	A test
U_01	A test
U_02	A test
U_03	A test
K_01	A test. Participation in the discussion in the lecture
K_02	A test. Participation in the discussion in 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
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	16.5 <i>(sum)</i>
10	Number of ECTS credits for contact hours <i>(1 ECTS credit = 25-30 hours of study time)</i>	0.66
11	Private study hours: background reading for lectures	5.5
12	Private study hours: preparation for classes	
13	Private study hours: preparation for tests	3
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	Number of private study hours	8.5 <i>(sum)</i>
21	Number of ECTS credits for private study hours <i>(1 ECTS credit = 25-30 hours of study time)</i>	0.34



22	Total study time	25
23	Total ECTS credits for the module <i>(1 ECTS credit =25-30 hours of study time)</i>	1.0
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	1. Williamson S.: Drop Structure Design for Wastewater and Stormwater Collection Systems, Parsons Brinckerhoff, New York, 2011. 2. Water Environment Federation: Alternative Sewer Systems FD – 12, 2nd Edition, 2008, Editor: Mc Graw – Hill Education, p.308
Module website	