MODULE SPECIFICATION

Module code	
Module title in Polish	**Instalacje budowlane**
Module title in English	**Construction Installations**
Module running from the academic year	**2016/2017**

A. MODULE IN THE CONTEXT OF THE PROGRAMME OF STUDY

Field of study	**Civil Engineering**
Level of qualification	**First cycle** *(first cycle, second cycle)*
Studies profile	**Academic** (*academic/practical)*
Mode of study	**Full-time** *(full-time / part-time)*
Specialism	
Organisational unit responsible for module delivery	**The Department of Piped Utility Systems**
Module co-ordinator	**Emilia Kuliczkowska, PhD, Eng.**
Approved by	**Marek Iwański, Professor**

B. MODULE OVERVIEW

Module type	**Core module** (*core/programme-specific/elective HES*)*
Module status	**Compulsory module** *(compulsory / non-compulsory)*
Language of module delivery	**English**
Semester in the programme of study in which the module is taught	**Semester 4**
Semester in the academic year in which the module is taught	**Summer/Winter semester** *(winter / summer)*
Pre-requisites	**None** (*module code/module title, where appropriate)*
Examination required	**No** *(yes / no)*
ECTS credits	**3**

Mode of instruction	**lectures**	**classes**	**laboratories**	**project**	**others**
Total hours per semester	**30**			**15**	

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

C. LEARNING OUTCOMES AND ASSESSMENT METHODS

Module aims	The aim of the module is acquaint students with: the knowledge of constructional installations (internal pipeline, sewage, gas, heating, and electrical installations); the principles of designing and realising them; the abilities of designing simple installations for a detached house.

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 elements of pipeline installations in buildings, fire protection and hot water installations (as well as the principles of calculating simple pipeline installations).	l/p	B_W20	T1A_W02
W_02	A student is able to characterise sewage systems, sewage installations in buildings, rainwater drainage system; a student also knows the principles of providing calculations of simple sewage system installations.	l/p	B_W20	T1A_W02
W_03	A student knows materials and principles of designing simple gas, ventilation and heating installations.	l/p	B_W20	T1A_W02
W_04	A student knows the most important notions as regards electrical engineering and electrical installations, graphical symbols as well as the example of modern electrical installation in a detached house.	w	B_W20	T1A_W02
U_01	A student can make calculations and design a simple pipeline, sewage, gas, and heating installation in a detached house.	l/p	B_U15	T1A_U03; T1A_U04; T1A_U05; T1A_U14; T1A_U16
K_01	A student can work individually on the assigned project task.	p	B_K01	T1A_K01; T1A_K03; T1A_K04
K_02	A student is responsible for the reliability of the obtained project results and their interpretation.	p	B_K02	T1A_K02; T1A_K05; T1A_K07

Module content:

1. Topics to be covered in the lectures

No.	Topics	Module outcome code
1-8	Pipeline systems and networks. Pipeline installations in buildings. Pipeline and fire protection installations. Individual water intakes.	W_01,
9-16	Sewage systems. Sewage installations in buildings. Rainwater drainage system.	W_02
17-19	Ventilating construction rooms. Installations of mechanical ventilation. Air conditioning installations. Gas installations in buildings.	W_03
20-22	The demands for heat in rooms. Water heating installations. Steam and air heating installations. Remote heating. Heat-transfer centre.	W-03
23-30	The most important notions concerning electrical engineering and electrical installations. Technical conditions concerning electrical installations. Graphical symbols as the example of a modern electrical installation in a detached house.	W_04

2. Topics to be covered in the classes
3. Topics to be covered in the laboratories

4. Topics to be covered in the projects

Project number	Topics	Module outcome code
1	Planning the arrangement of devices in sanitary rooms. The methods of leading pipeline ducts and risers. Water supply fitting.	W_01, U_01, K_01, K_02
2	Pipeline installations in detached houses. Dimensioning installation. Pipeline port.	W_01, U_01, K_01, K_02
3	Dimensioning a pipeline installation. Protections against back flow. Filters.	W_01, U_01, K_01, K_02
4	The principles of dimensioning sewage installations. Horizontal branches and sewage risers.	W_02, U_01, K_01, K_02
5	Central heating installation. Determining demand for heat in rooms as well as heat losses through ventilation. The principles of locating and selecting heating elements as well as a heating boiler.	W_01, W_03, U_01, K_01, K_02
6	The elements of gas installations. Devices for removing fumes (requirements concerning them and their division).	W_03, U_01, K_01, K_02

Assessment methods

Module outcome code	Assessment methods *(Method of assessment; for module skills − reference to specific project, laboratory and similar tasks)*
W_01	A test and a project
W_02	A test and a project
W_03	A test and a project
W_04	A test
U_01	A test and a project
K_01	A project
K_02	A project

C. STUDENT LEARNING ACTIVITIES

ECTS summary		
	Type of learning activity	**Study time/ credits**
1	Contact hours: participation in lectures	**30**
2	Contact hours: participation in classes	
3	Contact hours: participation in laboratories	
4	Contact hours: attendance at office hours (2-3 appointments per semester)	**3**
5	Contact hours: participation in project-based classes	**15**
6	Contact hours: meetings with a project module leader	**3**
7	Contact hours: attendance at an examination	
8		
9	**Number of contact hours**	**51** *(total)*
10	**Number of ECTS credits for contact hours** *(1 ECTS credit =25-30 hours of study time)*	**2**
11	Private study hours: background reading for lectures	**5**
12	Private study hours: preparation for classes	
13	Private study hours: preparation for tests	**10**

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	**10**
18	Private study hours: preparation for an examination	
19		
20	**Number of private study hours**	**25** *(total)*
21	**Number of ECTS credits for private study hours** *(1 ECTS credit =25-30 hours of study time)*	**1**
22	**Total study time**	**76**
23	**Total ECTS credits for the module** *(1 ECTS credit =25-30 hours of study time)*	**3**
24	**Number of practice-based hours** *Total practice-based hours*	**31**
25	**Number of ECTS credits for practice-based hours** *(1 ECTS credit =25-30 hours of study time)*	**1.2**