



### MODULE SPECIFICATION

Module code	
Module title in Polish	<b>Praca dyplomowa</b>
Module title in English	<b>Diploma Thesis</b>
Module running from the academic year	<b>2016/2017</b>

### A. MODULE IN THE CONTEXT OF THE PROGRAMME OF STUDY

Field of study	<b>Environmental Engineering</b>
Level of qualification	<b>first cycle</b> (first cycle, second cycle)
Programme type	<b>academic</b> (academic/practical)
Mode of study	<b>full-time</b> (full-time/part-time)
Specialism	All
Organisational unit responsible for module delivery	
Module co-ordinator	<b>Lidia Dąbek, PhD hab., Eng., Professor of the University</b>
Approved by:	<b>Lidia Dąbek, PhD hab., Professor of the University</b>

### B. MODULE OVERVIEW

Module type	<b>core module</b> (core/programme-specific/elective HES*)
Module status	<b>compulsory module</b> (compulsory/optional)
Language of module delivery	<b>Polish/ English</b>
Semester in the programme of study in which the module is taught	<b>Semester7</b>
Semester in the academic year in which the module is taught	<b>winter semester</b> (winter semester/summer semester)
Pre-requisites	<b>None</b> (module code/module title, where appropriate)
Examination required	<b>No</b> (Yes/No)
ECTS credits	<b>15</b>

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



# Politechnika Świętokrzyska

## WYDZIAŁ INŻYNIERII ŚRODOWISKA, GEOMATYKI I ENERGETYKI

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 diploma thesis is to confirm students' practical skills with respect to their specialism.
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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 is knowledgeable about the design, contractorship, and operation of water supply, sewage and waste disposal, air protection, energy generation, piped utility as well as HVAC systems; a student is familiar with the principles of cost estimation.	other	IŚ_W09 IŚ_W10 IŚ_W18	T1A_W02, T1A_W03, T1A_W04, T1A_W05, T1A_W06, T1A_W07 T1A_W08,
W_02	A student has knowledge on basic chemical and biological processes taking place in the environment, which are utilised in technological processes; a student is also knowledgeable about the impact of the investment on the environment.	other	IŚ_W07 IŚ_W16	T1A_W01 T1A_W03 T1A_W05 T1A_W07; T1A_W08
W_03	A student knows the most common materials used in environmental engineering objects and systems; a student also knows computer programs which support the design of engineering objects.	other	IŚ_W05 IŚ_W06	T1A_W03 T1A_W04 T1A_W05 T1A_W07
U_01	A student can design and assess a technical object of the selected elements of: water supply; sewage and waste disposal; piped utility as well as HVAC systems; a student is capable of planning appropriate operation as well as repair and maintenance works; a student can estimate investment costs.	other	IŚ_U04, IŚ_U09, IŚ_U13, IŚ_U16, IŚ_U19, IŚ_U21 – do IŚ_U25,	T1A_U01, T1A_U03; T1A_U04, T1A_U05 T1A_U07 T1A_U08 do T1A_U16
U_02	A student can use appropriately selected methods, devices, and materials which facilitate solving a given engineering task; a student can obtain the necessary information from professional reference sources and databases.	other	IŚ_U02, IŚ_U06, IŚ_U12, IŚ_U15,	T1A_U01- do T1A_U10 T1A_U14 T1A_U15
U_03	A student can read construction and surveying drawings as well as installation diagrams; a student can prepare graphic documentation by means of the selected computer programs, interpret it and draw the necessary conclusions.	other	IŚ_U10 IŚ_U11 IŚ_U27	T1A_U02; T1A_U03 T1A_U05; T1A_U07; T1A_U15
K_01	A student is responsible for the reliability of the obtained results of his/her work and their interpretation.	other	IŚ_K02	T1A_K02; T1A_K05
K_02	A student is aware of the necessity to raise his/her professional and personal competences.	other	IŚ_K03	T1A_K01; T1A_K02 T1A_K04
K_03	A student formulates conclusions and describes the results of his/her work; a student understands the necessity to implement new solutions; a student understands non-technical aspects of engineering	other	IŚ_K07 IŚ_K09	T1A_K02 T1A_K07



activity.			
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### Module content:

A student's independent preparation of his/her diploma thesis (from among one of the subjects listed below).

No.	Topics	Module outcome code
1	A design project of one of the elements of the municipal waste management system or the selected elements of a design project of a sewage, water supply, piped utility or HVAC system; assessing the impact of the selected investment on the environment.	W_01 W_02 W_03 U_01 U_02 U_03 K_01 K_02 K_03

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

### 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	Positive reviews and diploma thesis defence, a diploma examination
W_02	Positive reviews and diploma thesis defence, a diploma examination
W_03	Positive reviews and diploma thesis defence, a diploma examination
U_01	Positive reviews and diploma thesis defence, a diploma examination
U_02	Positive reviews and diploma thesis defence, a diploma examination
U_03	Positive reviews and diploma thesis defence, a diploma examination
K_01	Positive reviews and diploma thesis defence, a diploma examination
K_02	Positive reviews and diploma thesis defence, a diploma examination
K_03	Positive reviews and diploma thesis defence, a diploma examination



### D. STUDENT LEARNING ACTIVITIES

ECTS summary		
	Type of learning activity	Study time/ credits
1	Contact hours: participation in lectures	
2	Contact hours: participation in classes	
3	Contact hours: participation in laboratories	
4	Contact hours: attendance at office hours (2-3 appointments per semester)	
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		<b>188</b>
9	<b>Number of contact hours</b>	<b>188</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>7.52</b>
11	Private study hours: background reading for lectures	
12	Private study hours: preparation for classes	
13	Private study hours: preparation for tests	
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		<b>187</b>
20	<b>Number of private study hours</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>7.48</b>
22	<b>Total study time</b>	<b>375</b>
23	<b>Total ECTS credits for the module</b> <i>(1 ECTS credit = 25-30 hours of study time)</i>	<b>15</b>
24	<b>Number of practice-based hours</b> <i>Total practice-based hours</i>	<b>375</b>
25	<b>Number of ECTS credits for practice-based hours</b> <i>(1 ECTS credit = 25-30 hours of study time)</i>	<b>15</b>

### E. READING LIST

References	
Module website	