MODULE SPECIFICATION

Module code	
Module title in Polish	**Przekształcenie I ochrona terenów**
Module title in English	**Terrain Transformations and Protection**
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	All
Organisational unit responsible for module delivery	
Module co-ordinator	
Approved by:	**Lidia Dąbek, PhD hab., Professor of the University**

B. MODULE OVERVIEW

Module type	**core module** (core/programme-specific/elective HES*)
Module status	**compulsory module** (compulsory/optional)
Language of module delivery	**English**
Semester in the programme of study in which the module is taught	semester 3
Semester in the academic year in which the module is taught	winter 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				

Politechnika Świętokrzyska
al. Tysiąclecia Państwa Polskiego 7; 25-314 Kielce
tel.: 41 34 24 850, fax: 41 34 42 860
e-mail: wisge@tu.kielce.pl

C. LEARNING OUTCOMES AND ASSESSMENT METHODS

Module aims	The aim of the module is to familiarise students with basic knowledge on industrial activity of a man in Earth's crust, unfavourable phenomena which accompany its activity and are connected with various types of orogenic and terrain surface deformations.

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 on industrial activity of a man which is connected with various forms of shaping terrain surface.	l	GiK_W01	T1A_W01
W_02	A student is knowledgeable about the degradation of Earth surface (together with its causes).	l	GiK_W01	T1A_W01
W_03	A student has knowledge on the reclamation of degraded and post-industrial terrains.	l	GiK_W01	T1A_W01
U_01	A student is able to describe and characterise the types of natural environment transformations which are caused by industrial activity.	l	GiK_U18	T1A_U09;
U_02	A student can assess non-engineering aspects of industrial activity with respect to environmental changes.	l	GiK_U18	T1A_U09;
U_03	A student can indicate the causes of soil degradation; a student can also indicate the method of reclaiming it.	l	GiK_U18	T1A_U09;
K_01	A student is aware of the economic, environmental, and social effects of obtaining resources; a student is also aware of the care concerning the condition of the natural environment through the correct realisation of the reclamation.	l	GiK_K03	T1A_K02;
K_02	A student is aware of the necessity of raising his/her professional competences (as well as raising, improving, and broadening his/her knowledge).	l	GiK_K03	T1A_K02

Module content:

1. Topics to be covered in the lecture

No.	Topics	Module outcome code
1	Utilising terrain surface (the forms of utilising terrain by a man, anthropogenic forms of landform). Earth's surface protection, the standards of soil quality.	W_01, W_02 U_01, U_02,K_01
2	The characteristics and description of transformations concerning the natural environment caused by industrial activity. The degradation of Earth's surface (agricultural terrain).	W_01,W_02, U_01,U_02
3	Settlement and infrastructure terrain (industry, railways, motorways, etc.). Waste disposal, the reclamation of communal waste landfills.	W_01,W_02, W_03, U_01 U_02, K_01, K_02

4-5	The activity of surface mining, negative effects of surface exploitation (limestone and brown coal). The principles of reclaiming post-mining terrains, determining the usefulness of land use.	W_01,W_02, W_03, U_01 U_02, K_01, K_02
6	Exploiting the deposits of sulphur. Reclaiming and using land after the exploitation of sulphur deposits.	W_01,W_02, W_03, U_01 U_02, K_01, K_02
7	Transforming post-industrial terrains as a method of implementing the principles of sustainable development.	W_01,W_02, W_03, U_01 U_02, K_01, K_02

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

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
W_02	A test
W_03	A test and assessing a student's presentation
U_01	A test, assessing a student's presentation and his/her participation in a discussion
U_02	A test, assessing a student's presentation and his/her participation in a discussion
U_03	Assessing a student's presentation and his/her participation in a discussion
K_01	Assessing a student's presentation and his/her participation in a discussion
K_02	Assessing a student's presentation and his/her participation in a discussion

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** *(total)*
10	**Number of ECTS credits for contact hours** *(1 ECTS credit =25-30 hours of study time)*	**0,68**
11	Private study hours: background reading for lectures	**6**
12	Private study hours: preparation for classes	
13	Private study hours: preparation for tests	**2**
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** *(total)*
21	**Number of ECTS credits for private study hours** *(1 ECTS credit =25-30 hours of study time)*	**0,32**
22	**Total study time**	**25**
23	**Total ECTS credits for the module** *(1 ECTS credit =25-30 hours of study time)*	**1**
24	**Number of practice-based hours** *Total practice-based hours*	
25	**Number of ECTS credits for practice-based hours** *(1 ECTS credit =25-30 hours of study time)*	

E. READING LIST

References	
	1. Source materials 2. Methodology for documenting the chemical transformation of soils in industrial areas: dissertation / Krzysztof Urbański; AGH , Wydział Geodezji Górniczej i Ochrony Środowiska. Katedra Kształtowania i Ochrony Środowiska. 3. Podgórski Z., Antropogeniczne zmiany rzeźby terenu na obszarze Polski. Przegląd Geograficzny, 2001, t. 73, z. 1-2, s. 37-56;

Module website	

Politechnika Świętokrzyska
al. Tysiąclecia Państwa Polskiego 7; 25-314 Kielce
tel.: 41 34 24 850, fax: 41 34 42 860
e-mail: wisge@tu.kielce.pl