MODULE SPECIFICATION

Module code	
Module title in Polish	Administrowanie zasobami środowiska
Module title in English	**Environmental Resources Management**
Module running from the academic year	**2017/2018**

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	Water Supply, Treatment of Wastewater and Solid Waste
Organisational unit responsible for module delivery	**The Department Water and Wastewater Technology**
Module co-ordinator	**Prof.PhD hab. Elżbieta Bezak – Mazur**
Approved by:	**PhD hab., Lidia Dąbek, 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	**Polish/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	(**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				

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C. LEARNING OUTCOMES AND ASSESSMENT METHODS

Module aims	The aims of the module include the following: the principles of managing environmental resources with respect to the policy of constant sustainable development (drawing particular attention to the issues of environmental protection and shaping). Legal conditions.

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 and methods of estimating environmental resources in terms of the connection of the economy with the environment.	l	IŚ_W16 IŚ_W19	T1A_W03 T1A_W05 T1A_W07 T1A_W08 T1A_W09 T1A_W11
W_02	A student knows the principles and methods which concern utilising the environment; a student also applies modern sources of multimedia information to provide inventory with respect to environmental resources.	l	IŚ_W17 IŚ_W18	T1A_W02 T1A_W07 T1A_W08
U_01	A student can notice non-technical aspects of engineering activity.	l	IŚ_U25	T1A_U09 T1A_U10
K_01	A student understands the necessity of informing the society about environmental problems; moreover, a student acts according to the principles of professional ethics.	l	IŚ_K06 IŚ_K08	T1A_K05 T1A_K06 T1A_K07

Module content:

1. Topics to be covered in the lectures

No.	Topics	Module outcome code
1	Managing environmental resources. Economic functions of the environment, the links between the economy and the environment (with respect to ecological sustainability). Active and passive environmental policy, managing environmental development. Managing in the anthropogenic environment.	W_01 W_02
2	Legal acts in managing the environment in the conditions of continuous and sustainable regional development. The laws and obligations of people using the natural and anthropogenic environment.	W_02
3	Environmental conditions of environmental management. The classification of environmental resources and their qualitative potential – (mineral resources, water resources, soils, forests, landscapes, and other resources of anthropogenic environment).	W_01 W_02
4-5	The selected research techniques in the assessment of the natural environment: environmental cataloguing space, the delimitation of boundaries as regards environmental systems in valuation; environmental and landscape valuation of the researched local and regional space (an overview of the methods); assessing cartographical methods, GIS (Geographic Information System), statistical ones for subject utilitarian purposes.	W_01 U_01
6	Modern economy in relations to environmental protection, modern environmentally-friendly technologies.	W_01 W_02
7	The fundamentals of environmental management in an enterprise and in a	W_02

	commune, district, voivodeship, and the country.	K_01
8	International aspects of protecting environmental resources with respect to economy and administration.	W_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
W_02	A test
U_01	A test
K_01	A test

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)	**3**
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**	**18** *(total)*
10	**Number of ECTS credits for contact hours** *(1 ECTS credit =25-30 hours of study time)*	**0.72**
11	Private study hours: background reading for lectures	**9**
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		
20	**Number of private study hours**	***9*** *(total)*
21	**Number of ECTS credits for private study hours** *(1 ECTS credit =25-30 hours of study time)*	**0.28**
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. Craig J.R., Vaughan D.J., Skinner B.J., 2003, Zasoby Ziemi, Wydawnictwo Naukowe PWN, Warszawa, s.503. 2. Poskrobko Bazyli, 1998, Zarządzanie środowiskiem, Wydawnictwo Ekonomia i Środowisko, Białystok, s.235 3. Richert Maria, 2002, Ochrona środowiska w działalności inwestycyjnej i gospodarczej. Wymagania, procedury, wdrażanie, Ośrodek Doradztwa i Doskonalenia Kadr Sp. z o.o. Gdańsk.

	4. Wiąckowski S.K. 2000, Przyrodnicze podstawy inżynierii środowiska, Wydawnictwo Naukowe PWN, Warszawa Literatura uzupełniająca: 5. Richling A., Stojek B., Strzyż M. i in., 2006 Regionalne studia ekologiczno-krajobrazowe, część 2. Człowiek i krajobraz – ochrona i kształtowanie środowiska przyrodniczego. Problemy Ekologii Krajobrazu, tom XVI/1, Wydział Geografii i Studiów Regionalnych UW, Instytut Geografii AŚ w Kielcach, Polska Asocjacja Ekologii Krajobrazu, ss.382. 6. Strzyż Małgorzata (red.), 2004, Perspektywy rozwoju regionu w świetle badań krajobrazowych, Polska Asocjacja Ekologii Krajobrazu, IG AŚ Kielce, s.312. 7. Borys Tadeusz (red.), 1999, Wskaźniki ekorozwoju, Wydawnictwo Ekonomia i Środowisko Białystok, 275. 8. Kowalkowski Alojzy, Janczy Zbigniew, 2002, Wdrażanie systemu zarządzania środowiskowego w regionie z uwzględnieniem organizacji funkcjonujących w gminie i w powiecie, Europejski Instytut Kształcenia Podyplomowego EPOS-Kielce, Kielce, s.458. 9. Kudłacz Tadeusz, 1999, Programowanie rozwoju regionalnego, Wydawnictwo Naukowe PWN, s.179 10. Matuszak-Flejszman Alina, 2001, Jak skutecznie wdrożyć system zarządzania środowiskowego wg normy ISO 14001, Polskie Zrzeszenie Inżynierów i Techników Sanitarnych, Poznań, s.285. 11. Ryszard, 2000, Prawo Ochrony Środowiska, Oficyna Wydawnicza Branta, Bydgoszcz, s.538. 12. Winpenny J.T. 1995.Wartość środowiska – metody wyceny ekonomicznej, Państwowe Wydawnictwo Ekonomiczne, Warszawa.
Module website	