

**Karta opisu zajęć (syllabus)**

Nazwa kierunku studiów	Environmental Protection
Nazwa modułu, także nazwa w języku angielskim	Environmental restoration
Język wykładowy	English language
Rodzaj modułu	Optional
Poziom studiów	master's degree
Forma studiów	part-time studies
Rok studiów dla kierunku	I
Semestr dla kierunku	2
Liczba punktów ECTS z podziałem na kontaktowe/niekontaktowe	4 (1,2/2,8)
Tytuł naukowy/stopień naukowy, imię i nazwisko osoby odpowiedzialnej za moduł	Joanna Sender, PhD
Jednostka oferująca moduł	Department of Hydrobiology and Protection of Ecosystems
Cel modułu	The aim of the module is for students to acquire knowledge of the main directions of environmental transformations and the principles of assessment and valuation of changes. Revalorization of historic buildings, rural complexes, rural systems. The sense and scale of environmental reclamation activities undertaken. To familiarize students with the methods and types of conducting such activities and with the types and methods of identifying environmental threats along with methods of restoring damaged natural resources in order to develop the ability to properly manage space and natural environmental resources. Familiarization with the principles of designing ecological compensation.
Efekty uczenia się dla modułu to opis zasobu wiedzy, umiejętności i kompetencji społecznych, które student osiągnie po zrealizowaniu zajęć.	Knowledge:
	W1. The student has knowledge about the processes that shape the quality of environmental components and anthropogenic threats
	W2. knows methods of inventorying and valorization of selected environmental components, including the impact of potential threats on the natural environment
	W3. knows the features of selected physiographic regions, problems of protecting landscape ecological systems
	Skills:
	U1. The student is able to analyze problems related to the sustainable development of protected areas, along with the possibilities and methods of renaturalization
	U2. is able to implement specific elements of documentation and environmental expertise using databases and model studies
Social competences:	

	<p>K1. The student is ready for self-education and systematic updating of knowledge and using available literature and other sources to improve competences in the field of environmental protection.</p> <p>K2. takes action to maintain ecological balance and shape spatial order in cooperation with various government, local government and social institutions</p>
Wymagania wstępne i dodatkowe	-
Treści programowe modułu	The educational content includes the following: landscape ecological systems: structure, functioning, stabilizing and destabilizing factors, ecological engineering as a science and practical activity using the laws of ecology and technological achievements to repair and enrich degraded ecological systems, methods and techniques for reducing air pollution using the potential of ecological systems, biological methods and techniques water renewal, principles, methods and techniques of renaturalization of water and peat ecosystems, ecological engineering in waste management, revalorization of historic buildings, rural complexes, principles of nature compensation.
Wykaz literatury podstawowej i uzupełniającej	<p><b>Basic literature:</b></p> <ol style="list-style-type: none"> <li>1. Szyszko J., Rylke J., Jeżewski P., Dymitryszyn E. red. 2010. Ocena i wycena zasobów przyrodniczych. Wydawnictwo SGGW Warszawa.</li> <li>2. Wiatr I., Marczak H., Sawa J. 2003. Ekoinżynieria. Podstawy działań naprawczych w środowisku. Wydawnictwo Naukowe Gabriel Borowski; Lublin.</li> <li>3. Żelazo J., Popek Z. 2002. Podstawy renaturalizacji rzek SGGW Wawa.</li> </ol> <p><b>Supplementary literature:</b></p> <ol style="list-style-type: none"> <li>1. Bergmann W., Schiechtl H. 1999. Inżynieria ekologiczna</li> <li>2. Maciak F. 1999. Ochrona i rekultywacja środowiska</li> <li>3. Malina G. 2010. Rekultywacja i rewitalizacja terenów zdegradowanych</li> </ol>
Planowane formy/działania/metody dydaktyczne	lecture, multimedia presentation with elements of guided discussion, work using a computer, preparation and presentation of the project,
Sposoby weryfikacji oraz formy dokumentowania osiągniętych efektów uczenia się	<p><b>Ways of verifying the achieved learning outcomes:</b></p> <p><b>W1 –W3</b> assessment of a design task, assessment of a speech, assessment of a written exam.</p> <p><b>U1 – U2</b> assessment of the design task, assessment of the speech and presentation, assessment of the written exam</p> <p><b>K1 – K2</b> assessment of participation in the discussion, joint efforts to verify the presented theses through data analysis, assessment of the written test; assessment of group work and individual work.</p> <p>Forms of documentation of the achieved learning outcomes: archiving of final exams, reports from practicals, presentations, lecturer's notes.</p>

Elementy i wagi mające wpływ na ocenę końcową	Final grade = 40% arithmetic mean of the grades obtained during classes (test grades and activity grades - group/individual work, report/project grades) + 60% pass grade. These conditions are presented in the first lesson of the module.
Bilans punktów ECTS	<p style="text-align: center;"><b>CONTACT</b></p> <p>lecture – 10 hours - 0.4 ECTS  practical classes, 15 hours - 0.6 ECTS  consultations 3 hours - 0.12 ECTS  Final assessment 2 hours - 0.08 ECTS  A total of 30 hours /1.2 ECTS</p> <p style="text-align: center;"><b>NON-CONTACT</b></p> <p>preparation for practical classes - 20 hours - 0.8 ECTS  presentation preparation - 4 hours - 0.16 ECTS  studying literature - 20 hours - 0.8 ECTS  preparation for passing - 26 hours - 1.04 ECTS</p> <p style="text-align: center;">A total of 70 hours /2.8 ECTS</p>
Nakład pracy związany z zajęciami wymagającymi bezpośredniego udziału nauczyciela akademickiego	participation in lectures 10 hours participation in practical classes 15 hours consultations 3 hours final assessment 2 hours.
Odniesienie modułowych efektów uczenia się do kierunkowych efektów uczenia się	W1 – OS_W02 W2 – OS_W07 W3 – OS_W08 U1 – OS_U08 U2 – OS_U011 K1 – OS_K01 K2 – OS_K02