

**Course name: Protection and restoration of peatlands**

ECTS	2,0
Course status	optional
Course final assessment /evaluation of outcomes	graded credit
Prerequisite	Basics of ecology, soil science

**Main field of study: Landscape Architecture, Land Management**

Educational profile	General academic
Code of studies and education level	bachelor
Semester of studies	4 or 6 (summer semester)
Language of instruction	English

**Course offered by:**

Name of faculty offering the course	Faculty of Environment Engineering and Land Surveying
Name of department offering the course	Department of Land Reclamation and Environmental Development
Course coordinator	Dr hab. inż. Ewelina Zając, prof. URK

**Learning outcomes:**

Symbol of outcome	Description of the learning outcome	Reference to main field of study outcomes	Area symbol*
KNOWLEDGE – student knows and understands:			
AK1_W01	Genesis and classification of peatlands and main properties of peat	P6U_W P6S_WG	TS
AK1_W02	Ecological services of peatlands in the environment and consequences of their degradation	P6U_W P6S_WG P6S_WK	TS
AK1_W01	Main methods active and passive protection of peatlands and rules of their sustainable use	P6U_W P6S_WG	TS
SKILLS – student is able to:			
AK1_U01	Recognise peat type, degree of peat decomposition and state of degradation using field survey methods	P6U_U P6S_UW	TA, TS
AK1_U01	Recognize basic plant species typical to natural and degraded peatlands	P6U_U P6S_UW	TA, TS
AK1_U02	Design of a concept of restoration of an area degraded due to peat extraction.	P6U_U P6S_UW	TS
SOCIAL COMPETENCIES – student is ready to:			
AK1_K01	Identify effects of technical measures for the environment	P6U_K P6S_KK P6S_KO	TS

**Teaching contents**

Lectures:	10 hours
Topics	<ol style="list-style-type: none"> <li>1. Peatlands and peat formation and types.</li> <li>2. Peatlands of the world and Poland and their current status.</li> <li>3. Ecological services of peatlands in the landscape with special attention to climate change and water resources.</li> </ol>

	<p>4. <i>Main threads for peatlands. Degradation of peatlands and peat due to drainage and different management types.</i></p> <p>5. <i>Sustainable use of peatlands for mitigation of carbon dioxide emission. Methods of peatlands protection and active restoration.</i></p>
--	---

Accomplished learning outcomes	AK1_W01, AK1_W02
Means of verification, rules and criteria of assessment	<i>Checking test (written); at least 51% of correct answers to pass:          &lt; 51% - 2,0,          51-60% - 3,0,          61-70% - 3,5,          71-80% - 4,0,          81-90% - 4,5,          91-100% - 5,0.          50% share in final grade.</i>

Classes: 10 hours

Topics *Design of a concept of restoration of an area degraded due to peat extraction.*

Accomplished learning outcomes	AK1_U02
Means of verification, rules and criteria of assessment	<i>For a passing grade, a concept of peatland restoration has to be developed correctly.          50% share in final grade.</i>

Field practicals: 10 hours

Topics *Visit on near-natural and degraded (post-mined) bogs in the Orawa-Nowy Targ Basin. Field methods of peat surveying: determination of peat types, degree of peat decomposition, murching process. Vegetation of natural and degraded bogs.*

Accomplished learning outcomes	AK1_U01
Means of verification, rules and criteria of assessment	<i>Participation in field work and discussion.</i>

#### References:

Basic	<i>Joosten, H., Clarke, D. 2002. Wise use of mires and peatlands – Backgrounds and Principles, International Mire Conservation Group</i>
Supplementary	<i>Schumann M., Joosten H. 2008. Global Peatland Restoration Manual. Institute of Botany and Landscape Ecology, Greifswald University, Germany.</i>

#### Structure of learning outcomes

Area of academic study: TA	0,4	ECTS**
Area of academic study: TS	1,6	ECTS**

#### Structure of student activity

Contact hours	35	hrs.	1,4	ECTS**
Including: lectures	10	hrs.		
classes and seminars	10	hrs.		
consultations	2	hrs.		
participation in research	0	hrs.		
obligatory field trips	10	hrs.		
participation in examination	3	hrs.		
e-learning	0	hrs.	0	ECTS**
student own work	15	hrs.	0,6	ECTS**

\*Areas of academic study in the fields of: A – the arts; H – humanities; M – medical, sport and health sciences; N – natural sciences; P – biological sciences; R – agricultural, forestry and veterinary sciences; S – social studies; T – engineering and technology

\*\* stated with an accuracy to 0.1 ECTS, where 1 ECTS = 25–30 hours of classes