

Faculty of Forestry					
Study programme:	Forestry	Degree level: Bachelor's degree full-time/part-time programme:			
Specialization	Management of natural	Diploma path: -			
Module name:	Environmental technology in forestry				
Module type:	obligatory/elective	Semester:	ECTS	Module ID:	
No. of hrs in semester:	L - 15	C -	LC-	P-	SW- S-
Prerequisites:	Complete with prerequisites or "-"				
Teaching methods:	lecture, class, laboratory class, project, seminar, specialization workshop	Assessment:	Evaluation must be relevant to the intended learning		
		e.g.: lecture - written exam, oral exam, tests; class - two tests; laboratory class - evaluation of reports, verification of preparation for classes, tests; project - completion, presentation and discussion of the project			
Aims and objectives:	Introducing students to the natural and anthropogenic causes of environmental degradation. To acquaint students with modern technology protection				
Module content:	The idea of sustainable development in forestry. Global events that affect the shape of the ecology. Brownfield remediation (in-situ, ex-situ). Degradation and regeneration of forest soils. Sources of renewable energy. Forest biomass, wind, geothermal, hydropower. Chemical remediation methods (chemical oxidation). Biological methods, including methods for stabilizing and reducing the bioavailability of contaminants (phytoremediation and bioremediation). Methods of enhancing natural resistance to degradation of soils and				
Learning outcomes					Relevance to the programme learning outcomes
LO1	a general knowledge of natural and anthropogenic causes of environment				L1_W06
LO2	known techniques for regeneration of degraded forest land				L1_W03
LO3	is aware of the social, professional and ethical responsibility for the quality				L1_K07
LO4	able to identify and assess the value of innovative solutions for the regeneration				L1_U11
LO5					
LO6					
LO7					
LO8					
student workload	lecture attendance				
	participation in classes, laboratory classes, etc.				
	preparation for classes, laboratory classes, projects, seminars, etc.				
	work on projects, reports, etc.				
	participation in student-teacher sessions related to the class / seminar / project				
	implementation of project tasks				
	preparation for and participation in exams/tests				

st			
		TOTAL:	87
quantitative indicators	Student workload - activities that require direct teacher participation	47	ECTS 2
	Student workload - practical skills activities	60	2
basic references:	<i>Maciak F.: Ochrona i rekultywacja środowiska. Wydawn. SGGW, Warszawa 1999.</i> <i>Dwucet K., Krajewski W., Wach J.: Rekultywacja i rewaloryzacja środowiska przyrodniczego. Wyd. Uniw. Śląsk., 478, 1992.</i> <i>Kain, R. [ed.]: Planing and the environment in the modern world. Vol.3, Planning for conservation</i>		
supplementary references:	<i>Laurow Z. 1999. Pozyskiwanie drewna i podstawowe wiadomości o jego przerobie. Wyd. SGGW, Warszawa publication. Publisher, place of publication, year of publication.</i>		
learning outcomes	<i>methods of assessing learning outcomes</i>	type of class (if more than one) where the outcomes	
LO1	evaluating the student's reports and preparation for the classes	W	
LO2	evaluating the student's reports and preparation for the classes , tests on lecture	W, P	
LO3	evaluating the student's reports, tests on lecture content	W	
LO4	evaluating the student's reports, tests on lecture content	P	
LO5	evaluating the student's reports and performance in classes		
LO6	discussion of the student's reports, evaluation of the student's performance in		
LO7			
LO8			
Department:		Group instructors:	dr inż. Joanna Pietrzak
Date:	24.10.2013 r.	Coordinator:	dr inż. Joanna Pietrzak

L - lecture C - class LC - laboratory class P-project
SW - specialization workshop S - seminar