

COURSE DESCRIPTION CARD

Faculty of Civil Engineering and Environmental Sciences									
Field of study								Degree level and programme type	
Specialization / diploma path								Study profile	
Course name	Forest protection							Course code	IS-FF-00037S
								Course type	Erasmus
Forms and number of hours of tuition	L	C	LC	P	SW	FW	S	Semester	summer
	15	15				15		No. of ECTS credits	3
Entry requirements	Forest botany, forest phytopathology, entomology								
Course objectives	To familiarize students with methods of forest protection against pests caused by various biotic and abiotic factors. The course of changes in the number of harmful organisms in the understanding of forest management.								
Course content	<p>Lecture: Forest protection against the negative effects of abiotic factors (atmospheric, soil). Forest protection against damage caused by biotic factors: invertebrates (nematodes, insects, arachnids, snails), vertebrates (birds, mammals). Forest protection against damage related to human activities: forest damage, poor forest management, tourism, industrial and mining damage, fires.</p> <p>Exercises: Analysis of selected prevention methods in nurseries and forest stands, with particular emphasis on protecting forest against fires and damage by abiotic factors, e.g. extreme weather conditions. Principles of Integrated Plant Management (implementation of the EC Directive). Damage from forest animals and its prevention. Discussion of the Forest Protection Instruction and plant protection products recommended for use in forestry. Preparation by students of a project for the protection of a selected object (nursery, stand) in the form of a report or presentation based on the issues covered in the Forest Protection Instruction.</p> <p>Field exercises: Lustration of stands affected by the bark beetle outbreak and the occurrence of butt rot roots, as well as analysis of various options. Practical methods of seedling protection in the forest nursery.</p>								
Teaching methods	Problem lecture, subject exercises, discussion								
Assessment method	Lecture - written exam; exercises - final test and project, field exercises - final test.								
Symbol of learning outcome	Learning outcomes							Reference to the learning outcomes for the field of study	
LO1	The student has general knowledge about the functioning of living organisms at various levels of organization, abiotic nature and tasks related to forest protection.							L1_W06	

L02	The student has knowledge of the role and importance of the forest environment, its threats and methods of protection.	L1_W07	
L03	Student describes the threats to the forest environment caused by human activity and ways of preventing damage	L1_W12	
L04	Student can choose the appropriate methods of forest protection	L1_U03	
L05	Student is able to identify abiotic and biotic threats and sources of their origin	L1_U07	
L06	Student is aware of social, professional and ethical responsibility for the quality and condition of the natural forest environment	L1_K02	
Symbol of learning outcome	Methods of assessing the learning outcomes	Type of tuition during which the outcome is assessed	
L01	The grade of the written exam	L	
L02	The grade of the written exam	L	
L03	Written exam grade, field test colloquium	L, FW	
L04	Written exam grade, field test colloquium	L, FW	
L05	Written exam grade, field test colloquium	L, FW	
L06	Evaluation of project exercises	C	
Student workload (in hours)		No. of hours	
Calculation	Participation in laboratory and field classes	15	
	Participation in lectures	15	
	Participation in field classes	15	
	Project development	10	
	Participation in consultations	5	
	Preparation for tests and laboratory classes	5	
	Preparation for passing the exam and presence on the exam	10	
	Total:	75	
Quantitative indicators		Hours	No. of ECTS credits
Student workload – activities that require direct teacher participation		50	2
Student workload – practical activities		45	1,8
Basic references	Oszako, T. (2004). Protection of forests against pest insects and diseases: European oak decline study case. Forest Research Institute. Tkaczyk, M., Kubiak, K. A., Sawicki, J., Nowakowska, J. A., & Oszako, T. (2016). The use of phosphates in forestry. Forest Research Papers.		
Supplementary references	Grodzki, W., & Oszako, T. (2006). Current problems of forest protection in spruce stands under conversion. Forest Research Institute Evans, H. F., & Oszako, T. (Eds.). (2007). Alien invasive species and international trade. Forest Research Institute.		
Organisational unit conducting the course	Faculty of Civil Engineering and Environmental Sciences	Date of issuing the programme	
Author of the programme	Dr hab. inż. Tomasz Oszako, prof. PB	02.01.2020	

L – lecture, C – classes, LC – laboratory classes, P – project, SW – specialization workshop, FW - field work, S – seminar