

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 pathology							Course code	IS-FF-00036S
								Course type	Erasmus
Forms and number of hours of tuition	L	C	LC	P	SW	FW	S	Semester	summer
	15		20			5		No. of ECTS credits	3
Entry requirements	Forest botany, physiology of woody plants								
Course objectives	Obtaining knowledge about the basics of fungal structure: the ability to recognize the most important pathogenic forest fungi and the damage they cause to trees, learning selected methods for detecting and identifying pathogens and reducing their occurrence. Understanding the role of fungi in forest ecosystems and the basics of conservation of endangered species.								
Course content	<p>Lecture: Characteristics of mushrooms and entomopathogenic fungi. Fungi in forest biocenosis and their systematic outline, characteristics of selected orders, families and species occurring in the forest. Pathogens of shoots and seeds, trunks and roots. Pathogenic fungi of coniferous and deciduous stands. Protection of wood against decay fungi. Introductions to alien species of pathogens. Methods for preventing and limiting the development of harmful fungi in forestry. The role of fungi in forest ecosystems. Protection of endangered species.</p> <p>Laboratory: Comparison of the structure of plant cells and fungi. The structure of thallus of various species of fungi from the genus <i>Fusarium</i>, <i>Penicillium</i> etc. Various forms of sporulation e.g. microconidia and macroconidia in the genus <i>Fusarium</i>, Macroscopic (fruiting bodies of fungi) and microscopic recognition of disease symptoms and tissue damage caused by pathogens from Ascomycotina group. Macroscopic observations of plant tissue damage caused by fungi from the Basidiomycotina group and identification of collected fruiting bodies of fungi. Differences in structure between Oomycota and fungi on the example of the genus <i>Phytophthora</i>, the causing factors of dieback of many forest-forming species (oak, beech, alder) in nurseries and stands</p>								
Teaching methods	Lecture, exercises, presentation								
Assessment method	Lecture - exam, exercises - written tests. Preparation of the harvest and passing the recognition of mushrooms.								
Symbol of learning outcome	Learning outcomes							Reference to the learning outcomes for the field of study	
LO1	Student defines the basic concepts of phytopathology, such as disease, aetiology, symptomatology, etc.							L1P_W05, L1P_W06	
LO2	Student describes selected methods of integrated plant management (IPM)							L1P_U05	
LO3	Student recognizes and classifies fungal pathogens in the ecosystem							L1P_U07, L1P_U06	

L04	Student finds differences in damage symptoms to trees, distinguishes their causes, identifies the basic species of pathogens causing the indicated damage	L1P_U07, L1P_U13	
L05	Student collates and discusses the principles of species protection	L1P_W05, L1P_K02	
Symbol of learning outcome	Methods of assessing the learning outcomes	Type of tuition during which the outcome is assessed	
L01	Colloquium from lectures, test during laboratory exercises	W,L	
L02	Exam from lectures, test from laboratory exercises	W,L	
L03	Field exercise report	T	
L04	Laboratory report, observation of work in field classes	L,T	
L05	Exam from lectures	W	
Student workload (in hours)		No. of hours	
Calculation	Participation in laboratory and field classes	25	
	Participation in lecture classes	15	
	Preparation of reports	15	
	Participation in consultations	5	
	Preparation for tests and laboratory classes	20	
	Preparation for passing the exam and presence on the exam	15	
	Total:	110	
Quantitative indicators		Hours	No. of ECTS credits
Student workload – activities that require direct teacher participation		45	1,8
Student workload – practical activities		75	3
Basic references			
Supplementary references	Oszako T.2005. <i>Phytophthora</i> in nurseries and forest stands. 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