COURSE DESCRIPTION CARD

<table>
<tr><td colspan="10">Faculty of Civil Engineering and Environmental Sciences</td></tr>
<tr><td>Field of study</td><td colspan="5"></td><td colspan="2">Degree level and programme type</td><td colspan="2"></td></tr>
<tr><td>Specialization / diploma path</td><td colspan="5"></td><td colspan="2">Study profile</td><td colspan="2"></td></tr>
<tr><td rowspan="2">Course name</td><td colspan="5" rowspan="2">Invasive species in forest areas</td><td colspan="2">Course code</td><td colspan="2">IS-FF-00042W/S</td></tr>
<tr><td colspan="2">Course type</td><td colspan="2">Erasmus</td></tr>
<tr><td rowspan="2">Forms and number of hours of tuition</td><td>L</td><td>C</td><td>LC</td><td>P</td><td>SW</td><td>FW</td><td>S</td><td colspan="2">Semester</td><td colspan="2">summer or winter</td></tr>
<tr><td>15</td><td></td><td></td><td>15</td><td></td><td>15</td><td></td><td colspan="2">No. of ECTS credits</td><td colspan="2">4</td></tr>
<tr><td>Entry requirements</td><td colspan="9">Ecology, Nature protection</td></tr>
<tr><td>Course objectives</td><td colspan="9">The aim of the course is to familiarize students with changes occurring in forest ecosystems caused by the spread of invasive species intentionally introduced into ecosystems or accidentally dragged as well as assessing invasive potential and preventing invasions. The student learns the mechanisms of biological invasions, their history and scale as well as methods and costs of mitigating invasive organisms and the effects of invasion.</td></tr>
<tr><td>Course content</td><td colspan="9">Biological invasions: the essence of the phenomenon, the basic concepts used in the study of biological invasions, international legal instruments to prevent and mitigating the invasion. Features of the biology of invasive plant and animal species. Sources of biological invasions. Impact of environmental transformations by the invasions. Changes in forest ecosystems caused by invasive species populations. Invasive species of greatest importance in forest management. Techniques and costs of mitigating biological invasions in forests.</td></tr>
<tr><td>Teaching methods</td><td colspan="9">Lecture, exercises, presentation</td></tr>
<tr><td>Assessment method</td><td colspan="9">Lecture - written tests; project, field workshop - project and report evaluation</td></tr>
<tr><td>Symbol of learning outcome</td><td colspan="7">Learning outcomes</td><td colspan="2">Reference to the learning outcomes for the field of study</td></tr>
<tr><td>LO1</td><td colspan="7">The student knows the concepts used in biological invasion studies.</td><td colspan="2">L2P_W05</td></tr>
<tr><td>LO2</td><td colspan="7">The student knows the features of the biology of invasive plant and animal species and the sources of biological invasion.</td><td colspan="2">L2P_W05</td></tr>
<tr><td>LO3</td><td colspan="7">The student is able to determine the state of health and make a forecast of threats to the forest environment.</td><td colspan="2">L2P_U08</td></tr>
<tr><td>LO4</td><td colspan="7">Student is able to select techniques and calculate the costs of combating biological invasions in forests.</td><td colspan="2">L2P_U06</td></tr>
<tr><td>Symbol of learning outcome</td><td colspan="7">Methods of assessing the learning outcomes</td><td colspan="2">Type of tuition during which the outcome is assessed</td></tr>
<tr><td>LO1</td><td colspan="7">final test for lectures</td><td colspan="2">L</td></tr>
<tr><td>LO2</td><td colspan="7">final test for lectures</td><td colspan="2">L</td></tr>
<tr><td>LO3</td><td colspan="7">project and reports evaluation</td><td colspan="2">P, FW</td></tr>
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LO4	project and reports evaluation	P, FW	
Student workload (in hours)		**No. of hours**	
Calculation	Participation in the lectures	15	
	Participation in the project classes	15	
	Participation in consultations	15	
	Preparation of projects and reports	10	
	Preparation for passing the final test	5	
	Preparation of the report of fieldwork	10	
	Preparation of presentation	10	
	Total:	80	
Quantitative indicators		**Hours**	**No. of ECTS credits**
Student workload – activities that require direct teacher participation		50	2
Student workload – practical activities		60	2
Basic references	Alexander M. 2012. Management Planning for Nature Conservation. A Theoretical Basis & Practical Guide. Springer Silvy N. J. (ed.) 2012. The Wildlife Techniques Manual (Volume 1: Research/ Volume 2: Management). John Hopkins University Press		
Supplementary references	Krausman P. R., Cain J. W. (eds.) 2013. Wildlife Management and Conservation: Contemporary Principles and Practices Fryxell J. M., Sinclair A. R. E., Caughley G. 2014. Wildlife Ecology, Conservation, and Management. Wiley Blackwell		
Organisational unit conducting the course	Faculty of Civil Engineering and Environmental Sciences	**Date of issuing the programme**	
Author of the programme	Dan Wołkowycki, PhD	01.03.2020	

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