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">Forest hydrology</td><td colspan="2">Course code</td><td colspan="2">IS-FF-00011W</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>Semester</td><td colspan="2">winter</td></tr>
<tr><td>15</td><td>15</td><td></td><td></td><td></td><td></td><td></td><td>No. of ECTS credits</td><td colspan="2">2</td></tr>
<tr><td>Entry requirements</td><td colspan="9">-</td></tr>
<tr><td>Course objectives</td><td colspan="9">To familiarize students with the basic concepts of hydrology, the water cycle in nature. Presentation of water types, construction of riverbed and lakes. Acquiring the skills of determining water departments and performing simple hydrological calculations.</td></tr>
<tr><td>Course content</td><td colspan="9">Lectures: The concept of hydrology and its division. The water cycle in nature. Surface and underground waters. The land part of the hydrological cycle. Rivers and their regime. River outflow characteristics. Water movement, water level in the river bed. Drain measures. Flush and low prices. Water balance - surface and underground waters. Hydrometry. Solid material movements and water chemistry. Small retention.
Exercises: Morphology and morphometry of the river basin. Determination of the amount of precipitation in the catchment. Methods for measuring water flow in open channels. Water velocity distribution in the riverbed. Elements of the water balance of the forest catchment. Measures of drainage from the catchment. Retention and possibilities of its increase in forest catchments.</td></tr>
<tr><td>Teaching methods</td><td colspan="9">Lecture, exercises, discussion</td></tr>
<tr><td>Assessment method</td><td colspan="9">Lecture - written exam, presentation; classes - assessment of tasks carried out in class</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">understands the basic concepts of hydrology</td><td colspan="2">L1P_W01</td></tr>
<tr><td>LO2</td><td colspan="7">knows the water cycle in nature</td><td colspan="2">L1P_W01</td></tr>
<tr><td>LO3</td><td colspan="7">can classify waters</td><td colspan="2">L1P_W01</td></tr>
<tr><td>LO4</td><td colspan="7">can determine the surface water department and perform basic hydrological</td><td colspan="2">L1P_U01</td></tr>
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LO5	can independently solve calculation tasks in the field of water balance	L1P_K03
Symbol of learning outcome	**Methods of assessing the learning outcomes**	**Type of tuition during which the outcome is assessed**
LO1	The grade for passing the lecture	**L**
LO2	The grade for passing the lecture	**L**
LO3	The grade for passing the lecture	**L**
LO4	Evaluation of exercises performed in class	**C**
LO5	Evaluation of exercises performed in class	**C**
Student workload (in hours)		**No. of hours**
Calculation	Participation in lectures	15
	participation in exercises	15
	Participation in consultations	5
	preparation for exercises, homework	10
	preparation for passing the lecture	5
	TOTAL:	**50**
Quantitative indicators		**HOURS** / **No. of ECTS credits**
Student workload – activities that require direct teacher participation		35 / 1,4
Student workload – practical activities		25 / 1
Basic references	1. Campbell, D. 2012. Hydrology. Manaaki Whenua Press. 2. Maria A Mimikou Evangelos A Baltas; Vassilios A Tsihrintzis. 2018. Hydrology and water resource systems analysis. Boca Raton : CRC/Taylor & Francis. 3. George M Hornberger. 2014. Elements of physical hydrology. Baltimore : The John Hopkins University Press	
Supplementary references	1. Shaw E. M. 1994. Hydrology in practice. B.m. : Taylor and Francis	
Organisational unit conducting the course	Faculty of Civil Engineering and Environmental Sciences	**Date of issuing the programme**
Author of the programme	Małgorzata Rauba, Ph.D. Eng.	15.02.2019

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