

## COURSE DESCRIPTION CARD

Faculty of Civil Engineering and Environmental Sciences									
Field of study	Forestry							Degree level and programme type	First degree studies (BSc 7 semesters) full-time
Specialization/ diploma path	Management in valuable natural areas							Study profile	Erasmus
Course name	Forest hydrology							Course code	IS-FF-00011 (L3018)
								Course type	obligatory
Forms and number of hours of tuition	L	C	LC	P	SW	FW	S	Semester	winter
	15	15						No. of ECTS credits	2
Entry requirements	-								
Course objectives	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.								
Course content	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.								
Teaching methods	Lecture, exercises, discussion								
Assessment method	Lecture - written exam, presentation; classes - assessment of tasks carried out in class								
Symbol of learning outcome	Learning outcomes							Reference to the learning outcomes for the field of study	
LO1	understands the basic concepts of hydrology							L1P_W01	
LO2	knows the water cycle in nature							L1P_W01	
LO3	can classify waters							L1P_W01	
LO4	can determine the surface water department and perform basic hydrological							L1P_U01	

<b>LO5</b>	can independently solve calculation tasks in the field of water balance	L1P_K03	
<b>Symbol of learning outcome</b>	<b>Methods of assessing the learning outcomes</b>	<b>Type of tuition during which the outcome is assessed</b>	
<b>LO1</b>	The grade for passing the lecture	L	
<b>LO2</b>	The grade for passing the lecture	L	
<b>LO3</b>	The grade for passing the lecture	L	
<b>LO4</b>	Evaluation of exercises performed in class	C	
<b>LO5</b>	Evaluation of exercises performed in class	C	
<b>Student workload (in hours)</b>		<b>No. of hours</b>	
<b>Calculation</b>	Participation in lectures	15	
	participation in exercises	15	
	Participation in consultations	5	
	preparation for exercises, homework	10	
	preparation for passing the lecture	5	
	<b>TOTAL:</b>	<b>50</b>	
<b>Quantitative indicators</b>		<b>HOURS</b>	<b>No. of ECTS credits</b>
<b>Student workload – activities that require direct teacher participation</b>		35	1,4
<b>Student workload – practical activities</b>		25	1
<b>Basic references</b>	<ol style="list-style-type: none"> <li>Campbell, D. 2012. Hydrology. Manaaki Whenua Press.</li> <li>Maria A Mimikou Evangelos A Baltas; Vassilios A Tsihrintzis. 2018. Hydrology and water resource systems analysis. Boca Raton : CRC/Taylor &amp; Francis.</li> <li>George M Hornberger. 2014. Elements of physical hydrology. Baltimore : The John Hopkins University Press</li> </ol>		
<b>Supplementary references</b>	<ol style="list-style-type: none"> <li>Shaw E. M. 1994. Hydrology in practice. B.m. : Taylor and Francis</li> </ol>		
<b>Organisational unit conducting the course</b>	Faculty of Civil Engineering and Environmental Sciences	<b>Date of issuing the programme</b>	
<b>Author of the programme</b>	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