

Faculty of Forestry in Hajnowka					
Study programme:	forestry	Degree level: full First degree undergraduate (BSc 7 semesters) full-time time/part-time programme:			
Specialization		Diploma path: -			
Module name:	Hydrology				
Module type:	obligatory	Semester: III	ECTS 3	Module ID: L3018	
No. of hrs in semester:	L - 15	C - 15	LC-	P-	SW- S-
Prerequisites:	Complete with prerequisites or "-"				
Teaching methods:	lecture, class	Assessment:	Evaluation must be relevant to the intended learning outcomes		
		lecture - written exam, class - tests			
Aims and objectives:	TTo familiarize students with the basic concepts of hydrology, water cycle in nature. Presentation of the types of water, the construction of the riverbed and lakes. Learn how to determine watersheds and hydrological perform simple calculations.				
Module content:	Lecture - written exam, class - exercises				
Learning outcomes	The concept of hydrology and its division. The water cycle in nature. Surface water and said subterranean. The part of the overland hydrological cycle. Rivers and their regime. Characteristics of river outflow, The movement of water, the water level in the river bed. Measures the drain. Flooding and low water. Water balance - surface water and groundwater. Hydrometry. The movements of solids and water chemistry. Probability and hydrological forecasts and flood.			Relevance to the programme learning outcomes	
LO1	understand the basic concepts of hydrology			K_W01	
LO2	know the water cycle			K_W01	
LO3	able to classify waters			K_W01	
LO4	able to determine the surface watershed and perform basic hydrological			K_U01	
LO5	able to work in a team			K_U01	

LO6	can predict simple meteorological phenomena	K_U01	
LO7	able to work in a team	K_K06	
LO8	can independently solve problems	K_K05	
student workload	lecture attendance	15 x 1h	15
	participation in classes	15 x 1h	15
	participation in student-teacher sessions related to the class / seminar / project	5 x 1h	5
	implementation of project tasks	15 x 2h	30
	preparation for and participation in tests	10	10
	preparation for and participation in exams	15	15
		TOTAL:	90
quantitative indicators	Student workload - activities that require direct teacher participation 15h+15h+5h	35	ECTS 1
	Student workload - practical skills activities 15h+5h+30h+10h	60	2
basic references:	<i>Praca zbiorowa pod redakcją Soczyńskiej U. „Podstawy hydrologii dynamicznej” Wyd. UW, Warszawa 1993.</i> <i>Byczkowski A. „Hydrologia t. I i II”, Wyd. SGGW, Warszawa 1999</i>		
supplementary references:	<i>Kędracki M. „Hydraulika z elementami hydrologii : (dla studentów inżynierii środowiska i budownictwa)”, Wydaw. Politechniki Łódzkiej, Łódź 2008.</i> <i>Baścik M. [i in.] „Zlewnia : właściwości i procesy”, Wydanie Wyd.2 zm. Wydaw. Uniwersytetu Jagiellońskiego, Kraków 2006</i>		
learning outcomes	<i>methods of assessing learning outcomes</i>	type of class (if more than one) where the outcomes are assessed	
LO1	credit lecture	L	
LO2	credit lecture	L	
LO3	credit lecture	L	
LO4	the exercises performed in class	C	
LO5	the exercises performed in class	C	
LO6	the exercises performed in class	C	
LO7			
LO8			
Department:		Group instructors: dr inż. Małgorzata Rauba	
Date: 18.02.2012 r.		Coordinator: dr inż. Małgorzata Rauba	

L - lecture C - class LC - laboratory class P-project
SW - specialization workshop S - seminar