## Course name: Water Management and Protection of River Valleys

ECTS	6.0
Course status	facultative
Course final assessment /evaluation of outcomes	graded credit
Prerequisite	basic knowledge in flood protection of river valleys

## Main field of study: Landscape Architecture

Educational profile	General academic
Code of studies and education level	bachelor
Semester of studies	winter
Language of instruction	English

Course offered by:

Name of faculty offering the course	Environment Engineering and Land Surveying		
Name of department offering the course	Hydraulic Engineering and Geotechnics		
Course coordinator	Leszek Książek, Ph.D., Karol Plesiński, Ph.D.,		
	Andrzej Strużyński, Ph.D.		

## Learning outcomes:

Symbol of outcome	Description of the learning outcome	Reference to main field of study outcomes	Area symbol*		
	KNOWLEDGE – student knows and understands:				
WMP_K1	possibilities and effects of human activity in the catchment, methods of flood protection and river regulation close to nature	AK1_W09	Т		
SKILLS – student is able to:					
WMP_S1	determine the degree of development of a small river basin, calculate probable flows, calculate the parameters of seminatural hydraulic rapid structures	AK1_U01 AK1_U06	Т		
SOCIAL COMPETENCIES – student is ready to:					
WMP_C1	understanding the importance of landscape architecture as an engineering discipline affecting the natural environment, landscape quality and human living conditions, cooperating with other specialists involved in the design of a small basin	AK1_K01 AK1_K02	Т		

## Teaching contents

Lectures:		15 hours
Tonico	,	ntain and lowland catchment.  Diagrams on the shaping of the outflow (river floods).
Topics	<ul><li>3. Land cover degree.</li><li>4. Protection of the catchment at</li><li>5. Riverbeds close to nature – se</li></ul>	•
Accomplished learning outcomes		WMP_K1; WMP_C1

Means of v	erification	n, rules and criteria of	Written gra	aded credit, posi	tive assessment should be
Means of verification, rules and criteria of assessment		Written graded credit, positive assessment should be given at least 50% of correct answers to giver questions: <50% – insufficient (2.0); 50–60% – sufficient (3.0); 61–70% – satisfactory plus (3,5) 71–80% – good (4.0); 81–90% – good plus (4,5)			
		91–100% – very good (5.0). The share of the lecture			
Classes			grade in th	e final grade is 5	0%. 15 hours
Classes:	Land c	over forms their transfor	mation as a	a result of huma	n activity (land cover and
Topics	impact	on the conditions of water the classes, students w	er outflow fr	om the catchme	nt area will be discussed; ad cover [%] of the small
Accomplish		ing outcomes		WMF	P S1
			Proiect ev		ade from exercises is a
	Means of verification, rules and criteria of assessment		arithmetic average of formative grades. The share of the grade for the project exercises in the final grade of the subject is 50%.		
Field practi	cals:				15 hours
Topics		vering the land cover deg ating marks of human activ		nsformation of t	the watershed in the field
Accomplish		ing outcomes		WMF	P_S1
		n, rules and criteria of	Attendance	e list.	
assessmen	nt				
References:  Basic 1. R.GilPontius,Jr.Lau					
References Basic	:	1. R.GilPontiusJr.Laura	CSchneider	, 2001, Land-cov	rer change model validatio
	:	by an ROC method	for the Ip	oswich watershe	ed, Massachusetts, USA
	:	by an ROC method Agriculture, Ecosystems 2001, Pages 239–248.	for the Ip & Environn	oswich watershe nent, Elsevier, Vo	ed, Massachusetts, USA olume 85, Issues 1–3, Jun
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obligatory field trips	15	hrs.	<del></del>
participation in examination	2	hrs.	
e-learning	0	hrs.	0.0 ECTS**
student own work	93	hrs.	3.7 ECTS**

<sup>\*</sup>Areas of academic study in the fields of: A – the arts; H – humanities; M – medical, sport and health sciences; N – natural sciences; P – biological sciences; R – agricultural, forestry and veterinary sciences; S – social studies; T – engineering and technology
\*\* stated with an accuracy to 0.1 ECTS, where 1 ECTS = 25–30 hours of classes