

COURSE DESCRIPTION CARD – SPECIMEN

Faculty of Civil Engineering and Environmental Sciences										
Field of study								Degree level and programme type		
Specialization/ diploma path								Study profile	academic profile	
Course name	Flood hazard in small urban catchment - hydrological calculations							Course code	IS-FCEE-00119S	
								Course type	Erasmus	
Forms and number of hours of tuition	L	C	LC	P	SW	FW	S	Semester	summer	
					30			No. of ECTS credits	4	
Entry requirements	does not concern									
Course objectives	Student can describe and interpret flood phenomena in connection with condition of urban areas, identify water flood hazard. Student knows basic hydrological calculations for determine flood hazard in urban areas.									
Course content	<u>Specialization workshop</u> : Interaction man-water. Integrated management of the urban area and its surroundings. Water balance in urban area. Influence of the urban area on formation and circulation of water. Hydrological response analysis. Stormflow assessment. Determining the hazards of flooding. Flood wave model for small urban catchment. Calculations: determination of total precipitation, determination of effective precipitation, estimating the lag time, transformation of effective precipitation into direct runoff, runoff hydrograph.									
Teaching methods	specialization workshop									
Assessment method	specialization workshop: final report with calculations									
Symbol of learning outcome	Learning outcomes							Reference to the learning outcomes for the field of study		
LO1	Student knows causes of flooding and knows basic calculations for determine flood hazard in urban areas.							IS1_W07		
LO2	Student can assess the quality of information about the flood hazard from various sources.							IS1_U04		
LO3	Student can find the relationship between the urbanization and flood hazard.							IS1_U14		

Symbol of learning outcome	Methods of assessing the learning outcomes	Type of tuition during which the outcome is assessed	
L01	final report with calculations	SW	
L02	final report with calculations	SW	
L03	final report with calculations	SW	
Student workload (in hours)		No. of hours	
Calculation	participation in specialization workshop	30	
	participation in consultations	5	
	preparation of both calculations and final report	30	
	TOTAL:	65	
Quantitative indicators		HOURS	No. of ECTS credits
Student workload – activities that require direct teacher participation		35 h	1,5
Student workload – practical activities		65 h	2,5
Basic references	<p>Banasik K., Krajewski A., Sikorska A., Hejduk L., 2014. Curve number estimation for a small urban catchment from recorded rainfall-runoff events. Archives of Environmental Protection; 40 (3); 75-86.</p> <p>Chelmicki W., Siwek J. (ed.), 2008, Hydrological extremes in small basins, Book of abstracts of XII Biennial International Conference of Euromediterranean Network of Representative and Experimental Basins, Cracow 18-20 September 2008, IGI GP UJ, Cracow.</p> <p>Gądek W.J., Bodziony M., 2015. The hydrological model and formula for determining the hypothetical flood wave volume in non-gauged basin. Meteorol. Hydrol. Water Manage.; 3 (1): 3–10.</p> <p>Han D., 2010. Concise Hydrology. eBooks at bookboon.com</p>		
Supplementary references	Lükenga W. 2015. Water Resource Management. eBooks at bookboon.com		
Organisational unit conducting the course	Department of Agri-Food Engineering and Environmental Management	Date of issuing the programme	
Author of the programme	dr Piotr Kondratiuk	07.02.2019	

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