

## COURSE DESCRIPTION CARD

Faculty of Civil and Earth Sciences									
Field of study	ENVIRONMENTAL ENGINEERING							Degree level and programme type	second cycle degree, full-time
Specialization/ diploma path	Common subject							Study profile	academic profile
Course name	Technology and organization of sanitary works							Course code	
								Course type	Erasmus
Forms and number of hours of tuition	L	C	LC	P	SW	FW	S	Semester	Winter
	15				30			No. of ECTS credits	3
Entry requirements	Basics of water supply, Basics of sewerage, Materials science, Internal installations								
Course objectives	Getting to know the basic scope of knowledge related to technology and organization of sanitary works and the basics of costing.								
Course content	<p>Lecture: Technology of works and their scope in sanitary engineering. Technical conditions for the performance and acceptance of sanitary works. Earthworks. Types, execution, drainage of excavations. Work organization methods. Construction site development.</p> <p>Specialist workshop: Bill of quantities. Basics of costing. Bill of quantities and cost estimate for the selected internal sanitary installation and selected sanitary network. Ground mass balance using the squares method.</p>								
Teaching methods	Lecture, specialist workshop								
Assessment method	Lecture - written exam, Specialist workshop - assessment of reports from exercises, written exam								
Symbol of learning outcome	Learning outcomes							Reference to the learning outcomes for the field of study	
L01								IS2_W02	
L02								IS2_W06	
L03								IS2_U03	
L04								IS2_U07	
L05								IS2_U11	
L06								IS2_K04	

Symbol of learning outcome	Methods of assessing the learning outcomes	Type of tuition during which the outcome is assessed	
L01	written exam	L	
L02	written exam, realization of the exercise	L, SW	
L03	written exam, realization of the exercise	L, SW	
L04	written exam, realization of the exercise	L, SW	
L05	written exam, realization of the exercise	L, SW	
L06	written exam, realization of the exercise	SW	
Student workload (in hours)		No. of hours	
Calculation	Participation in lectures	30	
	Participation in exercises	30	
	Preparation of reports from practical tasks carried out in the specialization workshop	15	
	Participation in consultations	5	
	Preparation for passing the lecture	10	
	Preparation for passing the specialization workshop	10	
	TOTAL:	100	
Quantitative indicators		HOURS	No. of ECTS credits
Student workload – activities that require direct teacher participation		65	1,5
Student workload – practical activities		70	3,0
Basic references	<p>Adamski M., Materiałoznawstwo instalacyjne : ćwiczenia laboratoryjne, Białystok, Wydaw. Politechniki Białostockiej, 2006.</p> <p>Guzik J., Instalacje wodociągowe i kanalizacyjne Wydaw. i Handel Książkami "KaBe", 2014.</p> <p>Kalda G., Shevelya V., Trytek A., Materiałoznawstwo instalacyjne : ćwiczenia laboratoryjne Oficyna Wydawnicza Politechniki Rzeszowskiej, 2013.</p> <p>Warunki techniczne wykonania i odbioru robót budowlanych. Cz.E, Roboty instalacyjne sanitarne. Warszawa : Wydaw. Instytutu Techniki Budowlanej, 2012 - 2017.</p>		
Supplementary references	<p>Chudzicki J., Sosnowski S., Instalacje kanalizacyjne : projektowanie, wykonanie, eksploatacja. Wyd.3 popr. i uzup. Warszawa : Wydaw. Seidel-Przywecki, 2011.</p> <p>Chudzicki J., Sosnowski S., Instalacje wodociągowe : projektowanie, wykonanie, eksploatacja. Wyd.3 popr. i uzup. Warszawa : Wydaw. Seidel-Przywecki, 2011.</p>		
Organisational unit conducting the course	Department of Water Supply and Sewerage	Date of issuing the programme	
Author of the programme	Dr inż. Dariusz Wawrentowicz	20.01.2020	

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