

COURSE DESCRIPTION CARD

Faculty of Civil and Earth Sciences									
Field of study								Degree level and programme type	
Specialization/ diploma path								Study profile	academic profile
Course name	Installation material science							Course code	IS-FCEE-00104-1W
								Course type	Erasmus
Forms and number of hours of tuition	L	C	LC	P	SW	FW	S	Semester	Winter
	30				30			No. of ECTS credits	4
Entry requirements	Physics, mechanics and strength of materials								
Course objectives	Obtained knowledge is necessary for the proper design of sanitary installations and networks, as well as for performing and supervising all installation and technological works.								
Course content	Lecture: types of sanitary installations and networks, materials used for their construction, methods of pipe connections, metals and alloys of materials, and plastics used in environmental engineering Specialist workshop: Practical knowledge of materials used in the construction of sanitary networks and installations, pipe connections, elements of selected sanitary installations.								
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	
LO1	At an advanced level - construction, principles of functioning and operation of sanitary, heating, ventilation, air-conditioning and fire protection networks and installations as well as materials from which they are made							IS1_W05	
LO2	At an advanced level - the principles of technology design, systems in environmental engineering, as well as the principles of operation and operation of equipment							IS1_W09	

L03	Properly select sources and information regarding innovative solutions in environmental engineering, make their critical analysis, synthesis and assessment	IS1_U04	
L04	Design, in accordance with the initial assumptions, water and sewage, waste and air protection systems adequate to the needs and possibilities, using appropriately selected technologies, methods, tools and materials	IS1_U10	
L05	Act in a creative and entrepreneurial way, cooperate in a group, taking on various roles in it	IS1_U16	
L06	Use knowledge to shape social, professional and ethical awareness and take responsibility for your behavior	IS1_K02	
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	Chudzicki J., Sosnowski S., Instalacje kanalizacyjne : projektowanie, wykonanie, eksploatacja. Wyd.3 popr. i uzup. Warszawa : Wydaw. Seidel-Przywecki, 2011.		

	Chudzicki J., Sosnowski S., Instalacje wodociągowe : projektowanie, wykonanie, eksploatacja. Wyd.3 popr. i uzup. Warszawa : Wydaw. Seidel-Przywecki, 2011.	
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