

Faculty of ...						
Study programme:	Civil Engineering		Degree level: full-time	Bachelor's degree		
Specialization			Diploma path:			
Module name:	Technology of building products					
Module type:	elective	Semester:	6	ECTS	3	Module ID: ENB46454
No. of hrs in semester:	L - 15	C -	LC-	P-	SW- 15	S-
Prerequisites:	<i>Complete with prerequisites or "-"</i>		-			
Aims and objectives:	<i>Description of the assumed knowledge, skills and social competence the student should have acquired after the completion of the module:</i>		The purpose of education is: to familiarize students with the technology of production of small-sized construction products; to teach for calculating the demand for raw materials and preparation of technological schemes of the production process; to develop skills of the critical choice of technological solutions.			
Forms of teaching activities:	<i>lecture, classes, laboratory classes, project, specialization workshop, seminar</i>		Assessment:	<i>Evaluation must be relevant to the intended learning outcomes</i>		
			lecture – written tests; project – project realization, presentation and discussion			
Module content:	<i>Complete with the module content: (max. 1000 characters)</i>		The production technology of building ceramics. Technology of autoclaved aerated concrete (AAC/ACC) production. Technology of sand lime bricks production.			
Teaching methods:						
Learning outcome	<i>Specify min. 4, max. 8 learning outcomes in the following order: knowledge – skills – competence. Each learning outcome must be verifiable</i>				<i>Reference to the programme learning outcomes</i>	
LO1	Student describes in detail the stages of the production process				K_B1_W08, K_B1_W18,	
LO2	Student identifies devices and machines in the production process				K_B1_W08, K_B1_W18	
LO3	Student prepares the flow diagram of the production process				K_B1_W08, K_B1_U13,	
LO4	Student calculates demand for raw materials				K_B1_U13	
LO5	Student is able to use the Internet/web and other databases				K_B1_U23	
LO6	Student is able to determine the health and safety requirements in the manufacturing plant				K_B1_W15, K_B1_K02	
LO7						
LO8						
No. of learning outcome	Methods of assessing the learning outcome				Type of teaching activities (if more than one) during which the outcome is assessed	
LO1	written exam of lecture, the descriptive part of the project, presentation and defence of the project				L, P	
LO2	written exam of lecture, the descriptive part of the project, part of the graphics and defence project				L, P	
LO3	the part of the graphics of the project, the project verification				P	

LO4	the computational part of the project, the project verification	P	
LO5	verification and defence of the project	P	
LO6	the descriptive part of the project	P	
LO7			
LO8			
Student workload (in hours)	lecture attendance	15x1h	15
	participation in classes, laboratory classes, etc.	15x1h	15
	preparation for classes, laboratory classes, projects, seminars, etc.	5x2h	10
	working on projects, reports, etc.		
	participation in student-teacher sessions related to the classes/seminar/project		3
	implementation of project tasks	6x3h	18
	preparation for and participation in exams/tests		15
	TOTAL:	76	
Quantitative indicators	Student workload – activities that require direct teacher participation: 15+15+3	33	ECTS 1,5
	Student workload – practical activities: 15+10+3+18	46	2
Basic references:	1) http://www.aircrete-europe.com/en/ ; 2) http://www.wkb-systems.com/production-sand-lime-brick.html ; 3) http://www.madehow.com/Volume-1/Ceramic-Tile.html ; 4) <i>Philippe Boch, Jean-Claude Niepce: Ceramic Materials - Processes, Properties and Applications. ISTE Ltd. London. UK</i> ; 5) http://www.zzkymachine.com		
Supplementary references:	1) <i>Ceramics International, Elsevier Science</i> . 2) <i>Construction and Building Materials. Elsevier Science</i> .		
Unit:	Department of Construction Materials, Technology and Organization		
Date of issuing the programme:	16.01.2017	Author of the programme:	Małgorzata A. Lelusz, PhD, Eng

L - lecture C - classes
SW - specialization workshop

LC - laboratory classes P-project
S - seminar