



COURSE SPECIFICATION

Course code	full-time:	B1-1-103
	part-time:	BN1-2-203
Course title in Polish	Materiały budowlane	
Course title in English	Building Materials	
Valid from academic year	2023/2024	

CURRICULAR ALIGNMENT

Programme	CIVIL ENGINEERING
Level	first-cycle
Programme profile	academic
Mode of attendance	full-time; part-time
Specialism	all
Academic unit responsible for the course	Department of Construction Technology and Project Management
Course coordinator	dr inż. Edyta Spychał
Approved by	prof. dr hab. inż. Grzegorz Świt

COURSE DESCRIPTION

Teaching block	major	
Course status	required	
Language of instruction	Polish	
Semester of delivery	full-time	semester I
	part-time	semester II
Prerequisites	Chemistry, Mathematics and Physics - high school level	
Exam (YES/NO)	NO	
ECTS	3	

Mode of instruction		lecture	class	lab	project	other
No. of hours per semester	full-time	15		30		
	part-time	10		20		

Learning outcomes

Category of outcome	Outcome code	Course learning outcomes	Corresponding programme outcome code
	W01	Students have knowledge of building materials regarding their classification, properties, production methods, application, standard requirements, marketability.	B1_W18
Skills	U01	Students are able to carry out laboratory tests according to specific instructions and standards in order to identify and determine properties, and to assess the building material quality.	B1_U23
	U02	Students are able to compare material properties and rationally select the appropriate material according to its intended use, in compliance with the applicable requirements and standards.	B1_U24
	U03	Students are able to obtain information in the field of building materials from available literature databases, also in a foreign language. They are capable of self-directed learning, preparing reports on assigned tasks and an oral presentation on construction issues.	B1_U29
Competence	K01	Students are able to work independently and cooperate in a team on an assigned task and a research problem.	B1_K01
	K02	Students are responsible for the validity and reliability of the results obtained.	B1_K02
	K03	Students are able to describe the results obtained to formulate conclusions from the conducted experiments. They can present the content of their reports clearly in multimedia presentations.	B1_K04
	K04	Students understand the importance of Occupational Health and Safety rules and requirements in the laboratory.	B1_K05

COURSE CONTENT

Teaching mode*	Topics covered
lecture	Building materials classification, technical specifications and corresponding standard documents and technical requirements. Marketability.
	Technical properties of building materials
	Building ceramics.
	Rocks, masonry, aggregates.
	Building glass.
	Mineral binders. Building paste and mortars. Concrete.
	Metals and applications in construction.
	Wood and wood-based materials.
	Insulating materials.
Painting materials.	
lab	Occupational Health and Safety Training
	Identification and classification of building materials.
	Determination of selected physical properties of building materials.

	Selected tests of building binders and mortars.
	Testing selected mechanical properties of ceramic materials.
	Testing selected mechanical properties of aggregates.
	Selected tests of wood and wood-based materials.
	Assessment of selected properties of painting materials.

METHODS OF LEARNING OUTCOMES VERIFICATION

Learning outcome	Verification methods					
	Oral examination	Written examination	Test	Project	Report	Other
W01			X		X	X
U01					X	
U02					X	
U03					X	X
K01					X	X
K02					X	
K03					X	X
K04						X

ASSESSMENT

Teaching mode	Assessment type	Assessment criteria
lecture	mark-based	<i>Obtaining at least 50% of the points from the test</i>
lab	mark-based	<i>Obtaining at least 50% of the points from each in-class test, completion of all tasks, submitting and completing all reports. Obtaining at least 50% of the points from the multimedia presentation.</i>

STUDENT WORKLOAD

ECTS weighting														
	Activities	Student workload										h		
		full-time					part-time							
		W	C	L	P	S	W	C	L	P	S			
1.	Scheduled contact hours	15		30			10		20					h
2. 2.	Other (office hours, exams)	2		2			2		2					h
3.	Total number of contact hours	49					34					h		
4.	Number of ECTS credits for contact hours	2					1,4					ECTS		
5.	Independent study hours	26					41					h		
6.	Number of ECTS credits for independent study	1					1,6					ECTS		
7.	Practical hours	50					50					h		

8.	Number of ECTS credits for practical hours	2	2	ECTS
9.	Total workload	75	75	h
10.	ECTS credits for the course <i>1 ECTS credit =25 student learning hours</i>	3		ECTS

READING LIST

1. Praca zbiorowa pod redakcją Jana Małolepszego, Podstawy Technologii Materiałów Budowlanych i Metody Badań, Wydawnictwo AGH, Kraków 2022.
2. Nowak Ł.: Materiały Budowlane. Ćwiczenia Laboratoryjne, zeszyt nr 171, Wydawnictwo Politechniki Świętokrzyskiej, Kielce, 2016.
3. Praca zbiorowa pod kierunkiem Bogusława Stefańczyka, Budownictwo Ogólne. Tom I. Materiały i Wyroby Budowlane, Wydawnictwo Arkady, Warszawa 2009.
4. Osiecka E.: Materiały Budowlane: Kamień, Ceramika, Szkło, Oficyna Wydawnicza Politechniki Warszawskiej, Warszawa, 2010.
5. Osiecka E.: Wybrane Zagadnienia z Technologii Mineralnych Kompozytów Budowlanych, Oficyna Wydawnicza Politechniki Warszawskiej, Warszawa, 2000.