



## COURSE DESCRIPTION CARD - SYLLABUS

Course name

Building materials

### Course

Field of study

Material Engineering

Area of study (specialization)

Level of study

First-cycle studies

Form of study

full-time

Year/Semester

3/6

Profile of study

general academic

Course offered in

polish

Requirements

elective

### Number of hours

Lecture

15

Laboratory classes

15

Other (e.g. online)

Tutorials

Projects/seminars

### Number of credit points

2

### Lecturers

Responsible for the course/lecturer:

dr inż. Piotr Dziarski

Responsible for the course/lecturer:

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Faculty of Materials Engineering and Technical

Physics

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### Prerequisites

Student has a basic knowledge of chemistry, physics and mathematics. Student is able to think logically and analyze the obtained data. Student understanding the need to learn and acquire knowledge, systematic learning.

### Course objective

Knowing of the properties of selected building materials

### Course-related learning outcomes

Knowledge

Student has a basic knowledge of development trends in material engineering and technology related to



material design. Can define the principles for the selection of engineering materials; describe the elements and phases of engineering design, functional factors and issues of product manufacturing quality, sociological, ecological and economic factors in engineering design, material design methodology K\_W14

#### Skills

1. Student has the ability to self-study K\_U05
2. Student is able to make a critical analysis of the way of functioning and evaluate the existing technical solutions in materials engineering, in particular regarding materials, technologies, investigation methods, selection of materials. K\_U14

#### Social competences

1. Student understands the need for lifelong learning, can inspire and organize the learning process of other people. K\_K01
2. Student is aware of the importance and understanding of non-technical aspects and effects of engineering activities, including its impact on the environment and the related responsibility for decisions made. K\_K02

#### Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Formative assessment:

- a. In the scope of laboratory activities based on oral answers from each exercise. Passing threshold: 51% of knowledge from a given laboratory exercise.

Summative assessment:

- a. In terms of laboratory classes, the average of the grades obtained from the exercises.
- b. In the field of lectures - final test. Form: written / oral. Type: test / open-ended questions. Passing threshold: 51% of knowledge in the discussed subject exam result

#### Programme content

Lecture:

1. General classification of building materials.
2. Physical and mechanical properties.
3. Materials for the construction of walls, ceilings, thermal insulation materials, insulation materials-proof and waterproof.
4. Wood and wood-based materials.
5. Steel and metal products used in building.



6. The criteria for selection of building materials.

Laboratories:

Testing of selected properties of building materials. Selection of materials for specific applications.  
Assessment of the applicability under specific technical conditions.

### Teaching methods

Lecture: multimedia presentation illustrated with examples given on the board.

Laboratory: carrying out laboratory experiments given by the teacher - practical laboratory exercises.

### Bibliography

Basic

1. Stefańczyk B. (red.) Budownictwo ogólne. Tom I. Materiały i wyroby budowlane, Arkady, Warszawa 2010.
2. Osiecka E. Materiały budowlane, Oficyna Wyd. Politechniki Warszawskiej, Warszawa 2003.

Additional

1. Śliwiński J., Materiały budowlane ćwiczenia laboratoryjne, Wyd. Politechniki Krakowskiej, Kraków 2001.

### Breakdown of average student's workload

	Hours	ECTS
Total workload	62	2,0
Classes requiring direct contact with the teacher	32	1,0
Student's own work (literature studies, preparation for laboratory classes, preparation for colloquium) <sup>1</sup>	30	1,0

<sup>1</sup> delete or add other activities as appropriate