



COURSE DESCRIPTION CARD - SYLLABUS

Course name

Building materials [S1IMat1>MdB]

Course

Field of study

Materials Engineering

Year/Semester

4/7

Area of study (specialization)

–

Profile of study

general academic

Level of study

first-cycle

Course offered in

Polish

Form of study

full-time

Requirements

elective

Number of hours

Lecture

15

Laboratory classes

0

Other

0

Tutorials

0

Projects/seminars

15

Number of credit points

3,00

Coordinators

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Lecturers

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:

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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

Knowing with different groups of materials used in construction:

- building ceramics
- insulation materials
- construction materials

Course topics

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	60	2,00
Classes requiring direct contact with the teacher	30	1,00
Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation)	30	1,00