



## COURSE DESCRIPTION CARD - SYLLABUS

Course name

Materials [S1Arch1>MTRZ]

### Course

Field of study

Architecture

Year/Semester

1/1

Area of study (specialization)

–

Profile of study

general academic

Level of study

first-cycle

Course offered in

Polish

Form of study

full-time

Requirements

compulsory

### Number of hours

Lecture

30

Laboratory classes

0

Other

0

Tutorials

0

Projects/seminars

0

### Number of credit points

3,00

### Coordinators

### Lecturers

### Prerequisites

1. Knowledge: the student has a systematic body of knowledge concerning the structure of building and architectural raw material; the student has a systematic body of general knowledge of physics and of chemistry. 2. Skills: the student knows how to derive the information from a literature, databases, and other, wellmatched resources; he can integrate informations, he knows how to interpret it, and how to conclude, to formulate and to justify opinions . 3. Social competences: the student can cooperate within a group, playing various roles, the student correctly identify and solves problems concerning various social situations during the constructional materials' turnover.

### Course objective

The scope is to transmit a knowledge on architectural materials, as a discipline concerning research on and use of functional properties of construction materials and products

### Course-related learning outcomes

Knowledge:

Student knows and understands:

B.W4. mathematics, space geometry, statics, material strength, shaping, construction and dimensioning of structures, to the extent necessary to formulate and solve tasks in the field of architectural and urban design;

B.W5. issues of construction, construction technologies and installations, construction and building physics, covering key issues in architectural, urban and planning design as well as issues related to fire protection of buildings;

Skills:

Student can:

B.U2. recognize the importance of non-technical aspects and effects of an architect's design activity, including its impact on the cultural and natural environment;

B.U4. develop solutions for individual building systems and elements in terms of technology, construction and materials;

B.U5. make a preliminary economic analysis of planned engineering activities;

Social competences:

Student is capable of:

B.S1. formulating opinions on the achievements of architecture and town planning, their determinants and other aspects of the architect's activity, as well as providing information and opinions;

B.S2. reliable self-assessment, formulating constructive criticism regarding architectural and urban planning activities.

### Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Formative assesment

Assessment scale: 2,0; 3,0; 3,5; 4,0; 4,5; 5,0

Summative assesment: The grade obtained during written test

Assessment scale: 2,0; 3,0; 3,5; 4,0; 4,5; 5,0

### Programme content

1. Classification and basic properties of construction materials.
2. Natural stones and soils.
3. Binders.
4. Concrete.
5. Ceramics.
6. Glass.
7. Metals.
8. Timber.
9. Plastics.
10. Water barriers and thermal insulations.
11. Paints.
12. Acoustic insulations.
13. Materials for installations (wiring, heating, cooling, hydraulic and sewerage systems)

### Course topics

Presentation of the most important kinds of building materials and of their basic properties

### Teaching methods

Lecture with presentation;

on-line presentation (eKursy)

### Bibliography

Basic

Lyons A., Materials for Architects and Builders. Elsevier Ltd. 2006

Soutsos M., Domone P., (ed.) Construction Materials: Their Nature and Behavior. Kindle Edition (5th Edition)

Stefańczyk B., (red.) Budownictwo ogólne Tom 1 Materiały i wyroby budowlane. Arkady Warszawa 2005

Żenczykowski W., (red.) Budownictwo ogólne Tom I Materiały i wyroby budowlane. Arkady Warszawa 1964

Additional

Osiecka E., Materiały budowlane. Właściwości techniczne i zdrowotne. OWPW Warszawa 2002  
Parczewski W., Materiały budowlane. PWN Warszawa 1975  
Parczewski W., Wnuk Z., Elementy robót wykończeniowych. OWPW Warszawa 1998  
Brownell B., Material Strategies. Innovative Applications in Architecture. Princeton Architectural Press, New York 2012

### Breakdown of average student's workload

	Hours	ECTS
Total workload	75	3,00
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)	45	2,00