Building Materials 1 - BMEEOEMA301

I. Subject Specification

1. Basic Data

1.1 Title

BUILDING MATERIALS 1

1.2 Code

BMEEOEMA301

1.3 Type

Module with associated contact hours

1.4 Contact hours

Type	Hours/week / (days)
Lecture	2
Lab	1

1.5 Evaluation

Midterm grade

1.6 Credits

3

1.7 Coordinator

name	Dr. Nemes Rita
academic rank	Associate professor
email	nemes.rita@emk.bme.hu

1.8 Department

Department of Construction Materials and Technologies

1.9 Website

https://epito.bme.hu/BMEEOEMA301
https://edu.epito.bme.hu/course/view.php?id=1707

1.10 Language of instruction

hungarian and english

1.11 Curriculum requirements

Offered in non-civil engineering program

1.12 Prerequisites

1.13 Effective date

1 September 2017

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2. Objectives and learning outcomes

2.1 Objectives

Students become familiar with the basic mechanical and physical properties of construction materials.
Basic physical, mechanical, and hydromechanical properties of the most important structural materials: density (specific gravity), stress-strength, deformation-strain, shrinkage, toughness, brittleness, fatigue, creep, relaxation, hardness. Binder materials, mortars, concrete, iron, steel, timber, ceramics, bricks and masonry elements, natural stones, glass, polymers.

2.2 Learning outcomes

Upon successful completion of this subject, the student:

A. Knowledge

1. Knows and adequately uses the terminology of materials
2. Knows the physical-mechanical and chemical properties and their test method of construction materials.
3. Knows the physical and mechanical properties of concrete, metals, glass, timber, brick, and plastic.
4. Be aware of the field of building materials,
5. Is able to choose the construction materials for different structural elements.

B. Skills

1. Is able to judge the proper structural material significations,
2. Is able to judge and compare the basic material properties,
3. Is able to choose the proper construction material for the structure,
4. Is able to speak and write with appropriate technical terms about each topic of the subject.
5. Is able to apply the theoretical phenomenon during exact technical tasks.

C. Attitudes

1. Cooperates with the teacher,
2. Participates in life-long learning (communication, knowledge, technical terms),
3. Open to use up to date information technology,
4. During homework intends to apply different types of gaining knowledge (notes, laboratory protocols, catalogs, online references).

D. Autonomy and Responsibility

1. Is able to work alone on rock recognizing,
2. Is open to receive critic and development,
3. Is able to participate in problem-solving as part of a group,
4. Participate in professional debates, and can account for his/her opinion.

2.3 Methods

Lectures with the active participation of students.

2.4 Course outline

Hét	**Előadások és gyakorlatok témaköre**
1.	General properties of the building materials Densities (laboratory practice)
2.	Mechanical properties
3.	Timber Hydrotechnic (laboratory practice)
4.	Ceramics
5.	Binder Strength 1 (laboratory practice)
6.	Test
7.	Preliminary design week
8.	Natural stones

	Strength 1 (laboratory practice)
9.	Concrete
10.	Polymers Rock recognizing (laboratory practice)
11.	Glass Problem-solving test
12.	Isolating material, surface protection Rock test
13.	Summarizing test
14.	Draughting week

The above programme is tentative and subject to changes due to calendar variations and other reasons specific to the actual semester. Consult the effective detailed course schedule of the course on the subject website.

2.5 Study materials

1. Study Aids.
2. Everett, Alan: Materials. Mitchel's building series. ISBN 0-7134-5442-3
3. Mindess, Sidney: Concrete. Civil engineering and Engineering Mechanics series. ISBN 0-13-167106-5

2.6 Other information

The instructors are available for consultation during their office hours, as advertised on the department website. Special appointments can be requested via e-mail.

2.7 Consultation

This Subject Datasheet is valid for:

Inactive courses

II. Subject requirements

Assessment and evaluation of the learning outcomes

3.1 General rules

The assessment of the learning outcomes specified in clause 2.2. above and the evaluation of student performance occurs via tests, homework assignments and classwork.

3.2 Assessment methods

Evaluation form	Abbrev.	Assessed learning outcomes
1 summarizing test	ST	A.1-A.4; B.1-B.2, B.4; C.1-C.3
1 theory test	TH	A.1-A.4; B.1-B.2, B.4-B.5; C.1-C.3; D.3
1 problem-solving test	PR	A.1-A.4; B.1-B.2, B.4-B.5; C.1-C.3; D.3
1 rock recognizing test	RR	A.1-A.5; B.1-B.5; C.3-C.4; D.1-D.4

The dates of deadlines of assignments/homework can be found in the detailed course schedule on the subject's website.

3.3 Evaluation system

Abbreviation	Score
ST	50%
TH	16%
PR	20%
RR	14%
Total achievable during the semester	**100%**

3.4 Requirements and validity of signature

3.5 Grading system

Grade	Points (P)
excellent (5)	>= 85
good (4)	>= 74
satisfactory (3)	>= 62
passed (2)	>= 50
failed (1)	<50

3.6 Retake and repeat

One repetition possibility of all tests.

3.7 Estimated workload

Activity	Hours/semester
contact hours	12×3=36
preparation for the courses	14
homework	40
Sum	**90**

3.8 Effective date

1 September 2017

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Inactive courses