Building Construction II. - BMEEOEMAS43

I. Subject Specification

1. Basic Data

1.1 Title

Building Construction II.

1.2 Code

BMEEOEMAS43

1.3 Type

Module with associated contact hours

1.4 Contact hours

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

1.5 Evaluation

Exam

1.6 Credits

3

1.7 Coordinator

name	Dr. Annamária DUDÁS
academic rank	Associate professor
email	dudas.annamaria@emk.bme.hu

1.8 Department

Department of Construction Materials and Technologies

1.9 Website

https://epito.bme.hu/BMEEOEMAS43
https://fiek2.mywire.org/course/view.php?id=347

1.10 Language of instruction

hungarian and english

1.11 Curriculum requirements

Compulsory in the Civil Engineering (BSc) programme

1.12 Prerequisites

Weak prerequisites:

- Building Construction I. (BMEEOEMAS42)

1.13 Effective date

1 September 2022

2. Objectives and learning outcomes

2.1 Objectives

The course addresses the following topics: Floors, Roof claddings, Metal claddings, Structures of built-in roofs, Dry technologies, Facade claddings, Curtain walls, Glass roofs, Windows & Doors, Shading, Building physics, Thermal insulation and damp-proofing, Acoustics. Tasks of building reconstruction
During the semester students expand their knowledge and develop their skills both through the individual home assignments and through the contact courses where the above listed topics are discussed.

2.2 Learning outcomes

Upon successful completion of this subject, the student:

A. Knowledge

1. has an overview of the versions of floor coverings and their building technologies, knows types of orders of layers of the ground supported floors and intermediate slab supported floors
2. knows the types of tile and large element claddings, the orders of layers of roofs, the neccessary materials of built-in-roofs and the advantages and disadvantages of positioning of thermal insulations
3. knows the structures of dry constructions, has an overview on structural and technological rules of versions
4. possessing the design and construction knowledge of facade insulations and ventilated facade claddings
5. knows about glass clamping and bracing solutions and structural variations of curtain walls and glazed roofs
6. informed about the traditional and modern versions of the doors and windows and their shading
7. interprets the basic methods of building physics by calculating the thermal and hydrothermal protection and knows acoustical design considerations
8. is aware of the priority tasks and importance of building reconstruction

B. Skills

1. professionally draws the plans and detailed plans on a given scale
2. in his/her home work, he/she effectively applies the semester knowledge acquisition methods
3. is able to design building structures and technologies known during theoretical and practical lessons, to adapt these with different starting parameters, to balance between versions
4. uses the terminology, develops his / her skills in drawing and writing
5. is able to build the more complex building construction tasks and plans on the basis of the topic-based knowledge
6. applies the building physical basic calculations to evaluate the structures
7. seek to learn about the new building structures and the possibilities to renovate existing ones, to apply energy-efficient solutions
8. collaborate with his/her professors and students to expand his knowledge

C. Attitudes

1. cooperates with other course members and professors
2. develops his/her knowledge in technical drawing, in terminology communicating skills, and design of structures
3. aims to construct precise, flawless technical drawings and to understand and application of technological rules
4. aims to vindicate the principals of environmental consciousness and of energy efficiency and develops his/her knowledge regarding this topic

D. Autonomy and Responsibility

1. carries out the specified design tasks/home assignments individually
2. open to well-founded critical remarks
3. in certain situations, e.g. in practical classes, cooperates with her/his fellow students
4. applies the system-based approach in thinking
5. actively involved in professional discussion
6. presents her/his opinion with justification

2.3 Methods

Lectures, seminars, consultation in oral and in writing, using IT equipment and techniques, optional tasks carried out individually or in small groups, work organization techniques.

2.4 Course outline

Week	**Topics of lectures and/or exercise classes**
1.	Floors: orders of layers, floors used by dry technologies
2.	Details of floors, partition walls, outer floor coverings (prefab. concrete)
3.	Dry technologies, partition walls
4.	Roof structures of built-in roofs
5.	Structures of built-in roofs, orders of layers
6.	Details of metal claddings
7.	Facade claddings: Thermal insulation Orders of layers, fixing, elevation
8.	Facade claddings: Continuous building surface thermal insulation, ETICS, Details
9.	Facade claddings: ventilated constructions: assembled brick, stone and wooden claddings
10.	Glazed windows and doors, shading
11.	Building physics: thermal analysis
12.	Building physics: vapour analysis
13.	Building reconstruction: renovation of walls, floors and roofs, posterior waterproofings
14.	Structures of curtain walls, details

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

a) E-lecture notes:

- CAN BE DOWNLOADED FROM THE DEPARTMENT'S WEBSITE

b) Manuals:

- DATASHEETS, BOOKS RECOMMENDED ON LECTURES
- Barry's Introduction to Construction of Buildings and Barry's Advanced Construction of Buildings

2.6 Other information

2.7 Consultation

The instructors are available for consultation during their office hours, as advertised on the department website.

Special appointments can be requested via e-mail:

dudas.annamaria@emk.bme.hu

This Subject Datasheet is valid for:

2023/2024 semester I

II. Subject requirements

Assessment and evaluation of the learning outcomes

3.1 General rules

The assessment of the learning outcomes specified above in clause 2.2 considers a summarizing mid-term test, the submitted practical sheets, 1 small home assignment and 2 home assignments, taking into account the active participation on the seminars as well.

3.2 Assessment methods

Evaluation form	Abbrev.	Assessed learning outcomes
1 mid-term test (summarizing evaluation)	MT	A.1-A.4; B.1, B.3, B.7; C.3; D.4
1 small home assignment (one-time evaluation)	HA0	A.7; B.2, B.6, B.8; C.1-C.2; D.1-D.2, D.4-D.6
2 home assignment (continuous evaluation)	HA1,HA2	A.1-A.6; B.1-B.5, B.8; C.1-C.4; D.1-D.2, D.4-D.6
Seminars - practical sheets (continuous evaluation)	PR	A.1-A.8; B.1, B.4, B.6, B.8; C.1-C.3; D.2, D.5
active participation (continuous evaluation)	A	A.1-A.8; B.8; C.1-C.4; D.2-D.5
written exam (summarizing evaluation)	E	A.1-A.8; B.3, B.4, B.6; C.3, C.4; D.2, D.4, D.5

The dates of tests, the handing-out and submission dates of home assignments are detailed in the course schedule on the subject's website.
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
MT	20%
HA0	5%
HA1	5%
HA2	5%
PR	3%
A	2%
During semester period - Sum	40%
Exam	60%
Sum	100%

3.4 Requirements and validity of signature

The minimum requirement for obtaining a Signature is a passed (2) mid-semester test, and at least a passed (2) mean score considering the small home assignment and the two home assignments and the practical sheets. Each Home Assignment must reach passed mark.
The final grade is calculated according to clause 3.3 in accordance with the general rules of rounding.
Students with a signature do not take an exam course then the semester result is overwritten.
The previously obtained semester results unlimitedly can be taken into account in the examination.

3.5 Grading system

HA0, HA1, HA2, PR, A, are rated with a grade between 1 and 5.
For those who fulfil the attendance requirements, the MT, HA and PR grades are determined as follows:

Grade	**Points (P)**
excellent (5)	91 %<= P
good (4)	78 %<=P<91 %
satisfactory (3)	65 %<=P<78 %
passed (2)	49 %<=P<65 %
failed (1)	P<49 %

3.6 Retake and repeat

1. A second retake for the mid-semester test (MT) is provided on the delayed submission period with a charge.
2. The small home assignment (HA0) and the 1st home assignment (HA1) can be submitted without a charge on the seminar the week after the normal deadline. The course cannot be accepted with a submission after the delayed deadline.
3. The 2nd home assignment (HA2) and the practical sheets (PR) can be submitted with a charge (amount noted in the policy) on the last day of the delayed submission period until 16:00.
4. The active participation – due to its speciality – cannot be resubmitted or exchanged in any ways.

3.7 Estimated workload

Activity	**Hours/semester**
participation in lectures	7×2=14
participation in seminars	14×2=28
preparation for the evaluation	12
preparation of the home assignments	26
learning the designated notes	10

Sum	**90**

3.8 Effective date

1 September 2022

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2023/2024 semester I