

I. Subject Specification

1. Basic Data

1.1 Title

Building Constructions

1.2 Code

BMEEOEMMB-1

1.3 Type

Module with associated contact hours

1.4 Contact hours

Type	Hours/week / (days)
Lecture	2
Seminar	4

1.5 Evaluation

Midterm grade

1.6 Credits

8

1.7 Coordinator

name	Dr. Nagy Balázs
academic rank	Associate professor
email	nagy.balazs@emk.bme.hu

1.8 Department

Department of Construction Materials and Technologies

1.9 Website

<https://epito.bme.hu/BMEEOEMMB-1>
<https://edu.epito.bme.hu/course/view.php?id=3576>

1.10 Language of instruction

english

1.11 Curriculum requirements

Compulsory in the Construction Information Technology Engineering (MSc) programme

1.12 Prerequisites

1.13 Effective date

1 September 2024

2. Objectives and learning outcomes

2.1 Objectives

Transmission of knowledge in fields of building structures, materials and technologies, which enables successful graduates to solve building construction tasks with a systematic approach, and have structural knowledge to produce 2D/3D [technical drawings](#) and models of buildings and building constructions and able to carefully evaluate and apply new products, structures, technologies.

2.2 Learning outcomes

Upon successful completion of this subject, the student:

A. Knowledge

1. has fundamental knowledge in the areas of construction, design and implementation of facilities in order to perform design, construction, maintenance, operation, entrepreneurship and authority tasks
2. has knowledge in 2D/3D [technical drawings](#) and modelling of built structures
3. knows the interaction between humans and the built environment
4. knows advanced principles and typical solutions for energy-efficient and environmentally friendly construction

B. Skills

1. produces a 2D/3D technical drawing and model of a building or a structural element
2. applies integrated knowledge, contributes to solving multidisciplinary problems
3. is able to collaborate with experts from different trades, understands their points of view, and able to provide appropriate technical solutions to emerging problems
4. is able to provide both approximate and accurate estimation of the expected costs, feasibility, technical performance, aesthetic, functional and social values and impact of a planned facility
5. is able to carefully evaluate and apply new products, structures, technologies

C. Attitudes

1. is open to solve the tasks individually and cooperate with other participants of the project
2. uses the system-based approach for her/his thinking to select an appropriate technical solution which can automatically operate in the long-term and communicate with other IT systems
3. is willing to acquire the ability of self-learning and self-development
4. strives to fulfil sustainable and energy-efficient demands
5. is open to apply new, up-to-date and innovative methods and procedures related to the sustainable construction
6. strives to improve her/his knowledge through continuous learning

D. Autonomy and Responsibility

1. makes responsible professional decisions concerning the design, construction, maintenance, operation, entrepreneurship and authority tasks of structures
2. has a sense of responsibility that corresponds to sustainability, occupational safety and health, environmental protection. Encourages her/his professional team and employees to practice ethically and responsibly
3. takes responsibility for her/his decisions and work as well as for those of the professional team under their supervision

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.	Classification of building constructions, structural systems.
2.	Construction materials of structures.
3.	Vertical load-bearing structures (walls, pillars)
4.	Horizontal load-bearing structures (intermediate slabs, balconies)
5.	Floors.
6.	Stairs.
7.	Shallow and deep foundations and waterproofing
8.	Flat roofs and waterproofing
9.	Pitched roofs
10.	Roof claddings.
11.	Facade claddings.
12.	Building physics and energy performance
13.	Thermal insulations, ETICS.
14.	Windows and doors.

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) Online materials:**

1. E-lecture notes: CAN BE DOWNLOADED FROM THE DEPARTMENT'S WEBSITE
2. Manuals: DATASHEETS, BOOKS RECOMMENDED ON LECTURES

b) Mandatory literature:

1. Emmitt, Stephen, Barry's Introduction to Construction of Buildings, John Wiley & Sons Inc, 2018, ISBN 9781118977163

c) Recommended literature:

1. Emmitt, Stephen, Barry's Advanced Construction of Buildings, John Wiley & Sons Inc, 2018, ISBN 9781118977101

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: nagy.balazs@emk.bme.hu

This Subject Datasheet is valid for:

2024/2025 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 control test carried out through the moodle system, a mid-term test, the submitted practical sheets, 3 home assignments, taking into account the active participation on the seminars as well.

3.2 Assessment methods

Evaluation form	Abbreviation	Assessed learning outcomes
1 mid-term test (summarizing evaluation)	MT	A.1-A.4; B.2-B.3; C.2; D.1
2 control test (placement test)	CT1, CT2	A.1-A.4; B.2.; C.2;
3 home assignment (continuous evaluation)	HA1, HA2, HA3	A.1-A.4; B.1-B.5; C.1-C.3, C.4, C.6; D.1-D.2
Seminars – practical tasks (continuous evaluation)	PR	A.1-A.4; B.1-B.5; C.1-C.2; D.1-D.3
active participation (continuous evaluation)	A	A.1-A.4; B.1-B.2; C.1-C.2, C.4-C.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	35%
CT1	5%
CT2	5%
HA1	15%
HA2	15%
HA3	15%
PR	5%
A	5%
During semester period - Sum	100%
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 three 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.

3.5 Grading system

MT, HA1, HA2, HA3, PR, A, are rated with a grade between 1(failed) and 5 (excellent).

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For those who fulfil the attendance requirements, the MT, HA and PR grades are determined as follows:

Grade	Points (P)
excellent (5)	80 ≤ P < 90
good (4)	70 ≤ P < 80
satisfactory (3)	60 ≤ P < 70
passed (2)	50 ≤ P < 60
failed (1)	P < 50

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 home assignments 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 third home assignment (HA3) and the practical tasks (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	14×2=28
participation in seminars	28×2=56
preparation for the evaluation	56
preparation of the home assignments	70
learning the designated notes	30
Sum	240

3.8 Effective date

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1 September 2024

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2024/2025 semester I