Building Construction I. - BMEEOEMAS42

I. Tantárgyleírás

1. Alapadatok

1.1 Tantárgy neve

Building Construction I.

1.2 Azonosító (tantárgykód)

BMEEOEMAS42

1.3 Tantárgy jellege

Kontaktórás tanegység

1.4 Óraszámok

Típus	Óraszám / (nap)
Előadás (elmélet)	1
Gyakorlat	2

1.5 Tanulmányi teljesítményértékelés (minőségi értékelés) típusa

Vizsga

1.6 Kreditszám

3

1.7 Tárgyfelelős

név	Dr. Szalay Zsuzsa
beosztás	Egyetemi docens
email	szalay.zsuzsa@emk.bme.hu

1.8 Tantárgyat gondozó oktatási szervezeti egység

Építőanyagok és Magasépítés Tanszék

1.9 A tantárgy weblapja

https://epito.bme.hu/BMEEOEMAS42
https://edu.epito.bme.hu/course/view.php?id=427

1.10 Az oktatás nyelve

magyar és angol

1.11 Tantárgy típusa

Kötelező az építőmérnöki (BSc) szakon

1.12 Előkövetelmények

Strong prerequisites:

- Building Construction Study (BMEEOEMAT44)

1.13 Tantárgyleírás érvényessége

2025. február 1.

2. Célkitűzések és tanulási eredmények

2.1 Célkitűzések

During semester work, students gain knowledge on the following topics:
Flat and deep foundations. Underground waterproofing. Panel-type, block-type, and pillar-type construction systems. RC., steel and wood load-bearing floor systems, stairs, and balconies. Non-utilized and utilized roof structures (accessible flat roofs, green roofs). Water insulation against domestic water. Chimneys and building ventilation. Main structures of industrial halls.

2.2 Tanulási eredmények

A tantárgy sikeres teljesítése utána a hallgató

A. Tudás

1. Knows the geometric rules of flat foundation. Chooses a suitable foundation mode for different conditions. Can choose the waterproofing method that meets moisture and dampness requirements.
2. Sees the importance of waterproofing structures of a raster-type building, and recognizes the possible technology joints.
3. Has an overview of various waterproofing materials. Knows the connection between foundation type and waterproofing, and provides adequate waterproofing protection. Can draw the details of the above mentioned topics.
4. Know the common prefabricated slab systems. Can prepare a slab / floor plan with detail drawings.
5. Understands the static operation of stairs. Is familiar with the turning line design process of a monolithic reinforced concrete stairs. Can choose a suitable cover and railing for the stairs.
6. Can systematise flat roofs according to their structures, can apply the principles of drainage design. Is familiar with the applicable materials. Is able to construct sophisticated layer order from an architectural and building physics point of views.
7. Understands insulation properties of industrial roofs.
8. Knows the details of non-passable and passable roofs.
9. Knows the principles of creating balconies and loggias.
10. Knows the details of green roofs.
11. Understands the different types of utilised and technology waterproofing. Can choose the appropriate waterproofing and the suitable layer order according to the water intensity.
12. Knows the main types and structural elements of a reinforced concrete industrial hall.
13. Has an overview of the design of modern wooden structural buildings.
14. Is familiar with the main constructional features of chimneys and ventilation.

B. Képesség

1. Properly interprets design documents (floor plan, section, detail) and catalogues
2. Is able of thoughtful application of theoretical knowledge during a drawing task
3. Edits the tasks, detail drawings, homework tasks properly
4. Recognizes the wrong solutions and suggests a correction
5. Applies vocabulary correctly in oral and in writing
6. Logically thinks over the effects on each structure, the requirements imposed on them. Applies the general principles of designing structures.

7. Applies knowledge of energy efficiency and environmental awareness of buildings and structures.

C. Attitűd

1. Works with the tutor and students, in order to expand knowledge
2. Expands professional knowledge and professional vocabulary through continuous learning
3. Pursues to make precise sketches and make correct drawings
4. Seeks to understand the principle of energy efficiency and environmental awareness and to expand its knowledge of this subject

D. Önállóság és felelősség

1. Performs individual production of homework / background work drawings
2. In the case of lecture and student criticism of his work, accepts, improves, and takes into consideration the critical remarks to his / her additional tasks.
3. Is actively involved in the professional debate
4. Explains his opinion with explanation

2.3 Oktatási módszertan

Lectures, seminar works, communication in oral and in writing. IT technology and tools via information gaining and learning.

2.4 Részletes tárgyprogram

Week	**Topics of lectures and/or exercise classes**
1.	Flat foundation and design of related waterproofing
2.	Deep foundation and design of related waterproofing
3.	Small element, block, panel type walls structures
4.	RC. Steel, timber structures, raster type buildings
5.	LB floors, steel structure floors, modern wood
6.	External, internal stairs, timber, steel, RC. structures. Stair geometric design.
7.	Non-passable flat roofs. Materials, classification.
8.	Utilised roofs: terrace roofs
9.	Utilised roofs: green roofs
10.	Utilised water insulation
11.	Structural elements of industrial halls
12.	Modern wood structure buildings. Wall and floor structures.
13.	Chimneys, ventilation.
14.	Summary

A félév közbeni munkaszüneti napok miatt a program csak tájékoztató jellegű, a pontos időpontokat a tárgy honlapján elérhető "Részletes féléves ütemterv" tartalmazza.

2.5 Tanulástámogató anyagok

a) Notes / books:

1. Széll László: Magasépítéstan I.-II.
2. Gábor László: Épületszerkezettan I.-IV.

b) Online materials:

1. Lecture material
2. Catalogue material listed during lectures - available online

2.6 Egyéb tudnivalók

2.7 Konzultációs lehetőségek

Consultation dates: according to the department's website, or in advance, by e-mail: ‘consultant’@emk.bme.hu

Jelen TAD az alábbi félévre érvényes:

2024/2025 semester II

II. Tárgykövetelmények

3. A tanulmányi teljesítmény ellenőrzése és értékelése

3.1 Általános szabályok

The assessment of the learning outcomes set out in point 2.2 is based on a mid-semester test, the preparation and submission of the editorial sheets on seminar classes, a two-part home assignment and exam.

3.2 Teljesítményértékelési módszerek

Evaluation form	**Abbrev.**	**Assessed learning outcomes**
Mid-semester test	ZH	A.1-A.11; B.1-B.2, B.5-B.7; C.3; D.4
Home assignment	HF	A.1-A.13; B.1-B.4; C.1-C.4; D.1-D.2
Editorial sheets on seminar classes	SZ	A.1-A.13; B.1-B.4; C.1-C.4; D.1-D.3
Written exam	V	A.1-A.14; B.4-B.7; C.2-C.4; D.4

A szorgalmi időszakban tartott értékelések pontos idejét, a házi feladatok ki- és beadási határidejét a "Részletes féléves ütemterv" tartalmazza, mely elérhető a tárgy honlapján.

3.3 Teljesítményértékelések részaránya a minősítésben

Abbreviation	**Score**
ZH	20%
HF	15%
Sz	15%
Total achievable during the semester	50%
V	50%
Sum	**100%**

3.4 Az aláírás megszerzésének feltétele, az aláírás érvényessége

The requirement to obtain a signature is: minimum attendance criteria (Code of Studies Section 105. If absence from the total number of practical and laboratory practice lessons exceeds thirty percent, the credits for the subject cannot be obtained.), valid mid-semester test, homework assignments and editorial tasks that - each separately - meet the minimum requirements during the study period. The two-part homework can be submitted only after the instructor has signed it by the deadline indicated in the midterm schedule. Without a midterm signature, the assignment may be refused.

3.5 Érdemjegy megállapítása

Grade	**Points (P)**
excellent (5)	91%<=P
good (4)	78%<=P<91%
satisfactory (3)	65%<=P<78%
passed (2)	50%<=P<65%
failed (1)	P<50%

3.6 Javítás és pótlás

1. 2nd retake of mid-semester test (ZH 2): we provide a possibility in the replacement period. Additional fee is required.
2. Late submission of homework assignment (HF) and editorial tasks (SZ), is possible by 23.59 on the last day of supplementary week. Additional fee is required in case of late submission.

3.7 A tantárgy elvégzéséhez szükséges tanulmányi munka

Activity	**Hours/semester**
Contact hours	14×3=42
Completion of the editorial tasks	5
Preparation for mid-semester test	8
Homework assignment	10
Preparation for exam	25
Sum	**90**

3.8 A tárgykövetelmények érvényessége

2025. február 1.

Jelen TAD az alábbi félévre érvényes:

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