Building Constructions - BMEEOEMMB-1

I. Tantárgyleírás

1. Alapadatok

1.1 Tantárgy neve

Building Constructions

1.2 Azonosító (tantárgykód)

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1.3 Tantárgy jellege

Kontaktórás tanegység

1.4 Óraszámok

Típus	Óraszám / (nap)
Előadás (elmélet)	2
Gyakorlat	4

1.5 Tanulmányi teljesítményértékelés (minőségi értékelés) típusa

Félévközi érdemjegy

1.6 Kreditszám

8

1.7 Tárgyfelelős

név	Dr. Nagy Balázs
beosztás	Egyetemi docens
email	nagy.balazs@emk.bme.hu

1.8 Tantárgyat gondozó oktatási szervezeti egység

Építőanyagok és Magasépítés Tanszék

1.9 A tantárgy weblapja

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

1.10 Az oktatás nyelve

angol

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1.11 Tantárgy típusa

Kötelező az Építményinformatikai mérnök (MSc) szakon

1.12 Előkövetelmények

1.13 Tantárgyleírás érvényessége

2024. szeptember 1.

2. Célkitűzések és tanulási eredmények

2.1 Célkitűzések

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 Tanulási eredmények

A tantárgy sikeres teljesítése utána a hallgató

A. Tudás

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. Képesség

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. Attitűd

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. Önállóság és felelősség

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 Oktatási módszertan

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 Részletes tárgyprogram

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.

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) 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 Egyéb tudnivalók

2.7 Konzultációs lehetőségek

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

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II. Tárgykövetelmények

3. A tanulmányi teljesítmény ellenőrzése és értékelése

3.1 Általános szabályok

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 Teljesítményértékelési módszerek

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.
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
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 Az aláírás megszerzésének feltétele, az aláírás érvényessége

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 Érdemjegy megállapítása

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

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

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

3.6 Javítás és pótlás

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 A tantárgy elvégzéséhez szükséges tanulmányi munka

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 A tárgykövetelmények érvényessége

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