

I. Tantárgyleírás

1. Alapadatok

1.1 Tantárgy neve

Building Construction Methodology

1.2 Azonosító (tantárgykód)

BMEEOEMA-A1

1.3 Tantárgy jellege

Kontaktórás tanegység

1.4 Óraszámok

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

1.5 Tanulmányi teljesítményértékelés (minőségi értékelés) típusa

Vizsga

1.6 Kreditszám

2

1.7 Tárgyfelelős

név	Dr. Halász György
beosztás	Adjunktus
email	halasz.gyorgy@emk.bme.hu

1.8 Tantárgyat gondozó oktatási szervezeti egység

Építőanyagok és Magasépítés Tanszék

1.9 A tantárgy weblapja

<https://epito.bme.hu/BMEEOEMA-A1>
<https://edu.epito.bme.hu/course/view.php?id=1379>

1.10 Az oktatás nyelve

magyar és angol

1.11 Tantárgy típusa

Kötelező az építőmérnöki (BSc) szak Szerkezet-építőmérnöki ágazatán

1.12 Előkövetelmények

Weak prerequisites:

- Building Construction II. (BMEEOEMAS43)

1.13 Tantárgyleírás érvényessége

2022. február 2.

2. Célkitűzések és tanulási eredmények

2.1 Célkitűzések

During the semester, students acquire knowledge and skills in the following topics: Methodology of designing large-span constructions. Design phases, decision-making aspects. Main functional elements. Characteristic structures of large-span buildings: load-bearing structures (reinforced concrete, steel and composite structural frames). Building envelope structures, walls, roofs (reinforced concrete, metal and composite materials). Lighting structures (skylights, glass roofs), doors and windows. Mounted structures (floors and internal walls). Fire protection rules.

2.2 Tanulási eredmények

A tantárgy sikeres teljesítése után a hallgató

A. Tudás

1. Has an overview of the capacity and the expected requirements of large-span, special-function building constructions,
2. (Based on his previous studies) knows the drawing symbol system used in the plans,
3. Understands the process of constructing frame-type buildings and knows their main structural elements,
4. Provides an overview of reinforced concrete and steel structural systems, their static function, and their detail design principles,
5. Knows the commonly used layers orders,
6. Is aware of the purpose of doors and windows of special buildings and the general requirements

B. Képesség

1. Uses the drawing symbol system during communication in drawing,
2. Professionally, with the correct use of the signal system, prepares the required plan document, details drawings,
3. Effectively applies methods of learning in home assignments (notes, seminar lessons, product catalogues, internet),
4. Introduces, with the correct use of terms, orally and in writing any part of the course topic,
5. Is able to apply in drawing the critical and thoughtful application of theoretical knowledge
6. Applies knowledge of energy efficiency and environmental awareness in the evaluation of buildings and structures
7. Interprets the flat and pitched roof type buildings, their drainage and their typical roof claddings

C. Attitűd

1. cooperates with the lecturer and student companions during learning procedure,
2. Expands his / her skills and knowledge of drawing and professional communication skills 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. Accepts the lecturer's comments on his work, integrates them in his / her further assignments,
3. In certain situations, e.g. during practice lessons - monitors the work of other students, which helps in solving his / her own tasks.

2.3 Oktatási módszertan

Lectures, seminar works, communication in oral and in writing. IT technology and tools optionally self-made tasks, work organization techniques.

2.4 Részletes tárgyprogram

Week	Topics of lectures and/or exercise classes
1.	Introduction. Built examples representing building construction concepts
2.	Structures of buildings, pillars, main beams, rafters, constructional design rules, foundation, steel, RC. structures
3.	Preparation of the structural system
4.	Preparation of the structural system
5.	Preparation of the structural system
6.	Structures in practice, introducing special engineering tasks
7.	Preparation of the structural system
8.	Special material and structure: glass
9.	Special material and structure: glass
10.	Fire regulations in building construction design
11.	Preparation of the structural system
12.	Summary, analysis
13.	Energy considerations in building construction design
14.	Preparation of the structural system

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. Stephen Emmitt, Christopher A. Gorse: Barry's introduction to construction of buildings, 2010
2. Barry's Advanced Construction of Buildings, 2006
3. Roy Chudley, Roger Greeno: Construction Technology, 1999
4. Roy Chudley, Roger Greeno: Building Construction Handbook, 2016

5. Király Sándor: Szerkezettervezés, Tankönyvkiadó, Budapest, 1992
6. Bruzsa László: Épületszerkezetek II. (Ábraanyag 1. füzet), Műegyetemi Kiadó, 1995
7. Bruzsa László - Dr. Tóth Elek: Tetőszerkezetek A-tól Z-ig (Verlag Dashöfer Kiadó, 2000)

b) Online materials:

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

2.6 Egyéb tudnivalók

None.

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:

2023/2024 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, a three-part home assignment and an exam.

3.2 Teljesítményértékelési módszerek

Evaluation form	Abbreviation	Assessed learning outcomes
Mid-semester test	MT	A.1-A.6; B.1-B.7
1 st home assignment	HA1	A.1-A.4; B.1-B.7
2 nd, 3rd home assignment	HA2 -HA3	A.1-A.6; B.1-B.7; C.1-C.4; D.1-D.3
Exam	E	A.1-A.6; C.1-C.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
MT	20%
HA1	10%
HA2	10%
HA3	10%
Semester period	50 %
E	50 %
Sum	100 %

3.4 Az aláírás megszerzésének feltétele, az aláírás érvényessége

Signature requirements: minimum satisfactory MT result, and minimum satisfactory result of the average of homework assignments.

3.5 Érdemjegy megállapítása

[HA1](#), [HA2](#), HA3 is rated up to 1-5.

Minimum criteria of the final grade: minimum passed MT and minimum pass of each of the home assignments. The final grade is based on the weighting of the ratings obtained for each evaluation, in accordance with the general rules of the recapitalization.

Consultation and signing of the home assignments and intermediate submission are obligatory.

The home assignments have to be delivered as a complete documentation: concatenated and completed with cover sheet, content and bibliography.

The MT grade of the students who meet attendance criteria is determined according to the following criteria:

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%
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3.6 Javítás és pótlás

1. 2 nd retake of mid-semester test (MT 2): we provide a possibility in the replacement period. Additional fee is required.
2. Late submission of homework assignment [HA1](#), is possible in one week time after [HA1](#) submission deadline. Additional fee is required. Later submission does not allow completion of the subject!
3. Late submission of homework assignment [HA2](#), HA3, is possible by 12:00 on the last day of supplementary week. Additional fee is required in case of late submission.
4. Active participation - by its nature - can not be replaced.

3.7 A tantárgy elvégzéséhez szükséges tanulmányi munka

Activity	Hours/semester
Presence at lectures	14×1=14
Preparation for seminar works	7×1=7
Seminar works	14×1=14
Preparation for tests	10
Preparation of home assignments	10
Preparation of study curriculum	5
Sum	60

3.8 A tárgykövetelmények érvényessége

2022. február 2.

Jelen TAD az alábbi félévre érvényes:

2023/2024 semester II