

SUBJECT DATASHEET

I. SUBJECT SPECIFICATION

1 BASIC DATA

1.1 Title

BUILDING CONSTRUCTION I.

1.2 Code

BMEEOEMAS42

1.3 Type

Based on associated contact hours

1.4 Contact hours

type	hours/week
lectures	1
seminars/exercise classes	2
laboratory practices	0

1.5 Evaluation

Exam, mid-semester test, seminar works

1.6 Credits

3

1.7 Coordinator

Name: Halász György DLA
Academic rank: assistant professor
Email: halasz.gyorgy@epito.bme.hu

1.8 Department

Department of Construction Materials and Technologies (www.em.bme.hu)

1.9 Website

www.epito.bme.hu/BMEEOMAS42

1.10 Language of instruction

Hungarian and English

1.11 Curriculum requirements

Compulsory in the Civil engineering (BSc) programme, BRANCH OF STRUCTURAL ENGINEERING

1.12 Prerequisites

Required previous subjects (need to be completed to register)

Building Construction Study (BMEEOEMAT44)

1.13 Effective date

September 1, 2017

2 OBJECTIVES AND LEARNING OUTCOMES

2.1 Objectives

During semester work, students gain knowledge on the following topics:

Flat and deep foundations. Underground waterproofing. Panel-type, block-type, pillar-type construction systems. RC., steel and wood load bearing floor systems, stairs, balconies. Modern roofing structures. Non-utilized and utilized roof structures (accessible flat roofs, green roofs). Functional waterinsulation. Chimneys and building ventilation.

2.2 Learning outcomes

Upon successful completion of this subject, the student:

A. Knowledge

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 compare traditional and modern roof structures. Has an insight into the design nail plate roof structures, knows its constructional principles.
7. 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.
8. Understands insulation properties of industrial roofs.
9. Knows the details of non-passable and passable roofs.
10. Knows the principles of creating balconies and loggias.
11. Knows the details of green roofs.
12. Understands the different types of utilised and technology waterproofing. Can choose the appropriate waterproofing and the suitable layer order according to the water intensity.
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. Skills

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. Attitudes

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. Autonomy and responsibility

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 *Methods*

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

2.4 *Course outline*

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.	Wood roof structures. Substituting roof structures, Engineered roof structures.
8.	Non-passable flat roofs. Materials, classification.
9.	Utilised roofs: terrace roofs
10.	Utilised roofs: green roofs
11.	Utilised water insulation
12.	Modern wood structure buildings. Wall and floor structures.
13.	Chimneys, ventilation.
14.	Summery

Due to public holidays during the semester, the program is only for informational purposes and the exact dates are included in the "Detailed half-year schedule" available on the subject's website.

2.5 *Study materials*

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 *Other information*

None

2.7 *Consultation*

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

II. SUBJECT REQUIREMENTS

1 ASSESSEMENT AND EVALUATION OF THE LEARNING OUTCOMES

2.8 General rules

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 the oral exam.

2.9 Assessment methods

Evaluation form	abbrev.	assessed learning outcomes
Mid-semester test	ZH1	A.1-A.11, B.1-B.2; B.5-B.7; C.3; D.4
1 st home assignment	HF1	A.1-A.13; B.1-B.4; C.1-C.4; D.1-D.2
2 nd home assignment	HF2	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
Oral exam	V	(A.1-A.14;) B.4-B.7; C.2-C.4; D.4

The dates of deadlines of assignments/homework can be found in the detailed course schedule on the subject's website.

2.10 Evaluation system

abbreviation	score
ZH1	20%
HF1	7,5%
HF2	7,5%
Sz	15%
Total achievable during the semester	50%
V	50%
Sum	100%

2.11 Requirements and validity of signature

The requirement to obtain a signature is: minimum attendance criteria, valid mid-semester test, homework assignments and editorial tasks that - each separately - meet the minimum requirements during the study period.

2.12 Grading system

Final grade for the project design task for students who comply the requirements of attendance is considered as follows:

grade	Point: P
excellent (5)	91<=P
good (4)	78<=P<91%
satisfactory (3)	65<=P<78%
passed (2)	49<=P<65%
failed (1)	P<49%

2.13 Retake and repeat

- 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 (HF1, HF2) and editorial tasks (SZ), is possible by 12:00 on the last day of supplementary week. Additional fee is required in case of late submission.

2.14 Estimated workload

activity	hours/semester
Contact hours	14x3=42
Completion of the editorial tasks	5
Preparation for mid-semester test	8
Homework assignment	10
Preparation for exam	25
in total	90

2.15 Effective date

September 1, 2018.