Technical Drawing - BMEEOEMPRE2

I. Subject Specification

1. Basic Data

1.1 Title

Technical Drawing

1.2 Code

BMEEOEMPRE2

1.3 Type

Module with associated contact hours

1.4 Contact hours

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

1.5 Evaluation

Midterm grade

1.6 Credits

0

1.7 Coordinator

name	Dr. Dudás Annamária
academic rank	Associate professor
email	dudas.annamaria@emk.bme.hu

1.8 Department

Department of Construction Materials and Technologies

1.9 Website

https://epito.bme.hu/BMEEOEMPRE2
https://fiek2.mywire.org/course/view.php?id=408

1.10 Language of instruction

english

1.11 Curriculum requirements

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1.12 Prerequisites

1.13 Effective date

1 September 2022

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2. Objectives and learning outcomes

2.1 Objectives

Establishing and developing students' spatial reasoning ability, acquiring technical drawing what is the expression of communication in technical fields. In the course of the subject students learn to use of technical drawing tools , basics of geometry, representation system of perpendicular parallel projection and the rules of technical drawings.
During the semester students get acquainted with the following topics: imaging and reconstruction in Monge's two projection plane imaging systems, representation of space elements in a general and special position. Basics of technical drawing are aimed at drawing elements, proportions and scales, reduction and enlargement, preparation of floor plan.
During the semester, students use the knowledge gained in the above listed topics and prepare their homework.

2.2 Learning outcomes

Upon successful completion of this subject, the student:

A. Knowledge

1. uses technical drawing tools
2. performs basic geometry tasks
3. creates simple geometry constructions
4. represents spatial elements in parallel-perpendicular projection systems
5. creates a new view of a flat-face solid
6. draws the intersection of the general and specially positioned planes, of a straight line and a plane
7. applies correctly drawing elements on different scales in a technical drawing; constructs floor plan

B. Skills

1. routinely applies basic constructions, determines the visibility on the basis of spatial reasoning
2. compiles the complex editing process by logical thinking
3. using the editing procedures in the homework assignment that described and practiced on the lectures and practice lessons
4. applies the terminology appropriately
5. uses the signalling system of the technical drawing, applies the different scales correctly, be able to reduce or enlarge and draws drawing tasks for thoughtful application of theoretical knowledge
6. constructs a floor plan of a smaller building with using correct drawing elements
7. understands building floor plans

C. Attitudes

1. cooperates with other course members and professors
2. expands geometric and technical drawing knowledge in the process of learning, provides the editing steps

with the terms of the construction and justifies its correctness
3. strives for accurate constructions and flawless drawings

D. Autonomy and Responsibility

1. carries out the specified design tasks/home assignments individually
2. open to well-founded critical remarks
3. in certain situations, e.g. in practical classes, helps the editing process on the basis of recognized rules
4. presents her/his opinion with justification

2.3 Methods

Lectures, seminars, consultation in oral and in writing

2.4 Course outline

Week	**Topics of lectures and/or exercise classes**
1.	Types of technical drawing tools, list of necessary tools Basics of geometry: positions of lines, angles, planes
2.	Drawing of parallels, perpendiculars
3.	Types of lines, meanings and application Practice: construction lines and angles: bases, measuring, using compass
4.	Construction of angles
5.	Parallel ruler: application, Technical writing, technical letters
6.	Construction of geometrical forms: triangles, rectangles, squares, parallelograms, circle
7.	Copy task – magnifying
8.	2D, 3D representation, System of orthogonal projection
9.	System of orthogonal projection (simple examples, practicing)
10.	2D > 3D special reasoning exercises
11.	2D > 3D special reasoning exercises
12.	Scales: representation of a room or flat in sketch (small scale), in construction (1:50, 1:100)
13.	Fournishing plan, Representation of diagrams, figures
14.	Envelope (construction, cutting out, sticking, addressing)

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
2. WEBSITE

3. Technical Drawing-lecture-notes
4. Descriptive Geometry Practice Book

b) Manuals:

1. DATASHEETS, BOOKS RECOMMENDED ON LECTURES
2. Giesecke, Mitchell, Spencer, Hill, Dygdon, Novak: Technical drawing, *Pearson, 2003*

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: dudas.annamaria@emk.bme.hu, cecilia.tomboly@emk.bme.hu

This Subject Datasheet is valid for:

2023/2024 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, a mid-term test, the submitted practical sheets, 3 home assignments taking into account and 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.7; B.1-B.2, B.5-B.6; C.3
2 control test	CT	A.1-A.5; B.1-B.2
home assignment 1 (one-time evaluation)	HA1	A.1-A.3; C.1-C.3; D.1
home assignment 2 (one-time evaluation)	HA2	A.1-A.3; C.1-C.3; D.1
home assignment 3 (one-time evaluation)	HA3	A.1-A.6; B.1-B.5; C.1-C.3; D.1
home assignment 4 (one-time evaluation)	HA4	A.1-A.7; B.1-B.7; C.1-C.3; D.1-D.4

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	50%
CT	30%
HA1	5%
HA2	5%
HA3	5%
HA4	5%
Sum	**100%**

3.4 Requirements and validity of signature

Signature cannot be obtained.

3.5 Grading system

HA1, HA2, HA3, HA4, MT, CT are rated with a grade between 1 and 5.
The minimum requirement for obtaining a grade is a passed (2) mid-semester test and the control tests, and at least a passed (2) for each home assignments. The final grade is calculated according to clause 3.3 in accordance with the general rules of rounding.
For those who fulfil the attendance requirements, the MT and CT grades are determined as follows:

Grade	Points (P)
excell	80 <=

ent (5)	P
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. Control tests (CT) each can be retake once during the study period.
3. The HA1, HA2, HA3 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.
4. The 4th home assignment (HA4) can be submitted with a charge (amount noted in the policy) on the last day of the delayed submission period until 16:00

3.7 Estimated workload

Activity	**Hours/semester**
participation in lectures and seminars	14×4=56
preparation for the seminars	14×0,5=7
preparation for the evaluation	10+15=25
preparation of the home assignments	72
Sum	**160**

3.8 Effective date

1 September 2022

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2023/2024 semester I