

I. Tantárgyleírás

1. Alapadatok

1.1 Tantárgy neve

Technical value analysis

1.2 Azonosító (tantárgykód)

BMEEOEMDT89

1.3 Tantárgy jellege

Kontaktórák tanegység

1.4 Óraszámok

Típus	Óraszám / (nap)
Előadás (elmélet)	2

1.5 Tanulmányi teljesítményértékelés (minőségi értékelés) típusa

Vizsga

1.6 Kreditszám

3

1.7 Tárgyfelelős

név	Dr. Dudás Annamária
beosztás	Egyetemi docens
email	dudas.annamaria@emk.bme.hu

1.8 Tantárgyat gondozó oktatási szervezeti egység

Építőanyagok és Magasépítés Tanszék

1.9 A tantárgy weblapja

<https://epito.bme.hu/BMEEOEMDT89>

<https://edu.epito.bme.hu/course/view.php?id=2514>

1.10 Az oktatás nyelve

magyar és angol

1.11 Tantárgy típusa

Ph.D.

1.12 Előkövetelmények

1.13 Tantárgyleírás érvényessége

2022. szeptember 1.

2. Célkitűzések és tanulási eredmények

2.1 Célkitűzések

This course will provide the doctoral student with in-depth knowledge in the following areas, which will enable the processing and demonstration of scientific results in the fields of building constructions value analysis, environmental renovation and property valuation. The course covers the following topics: the obsolescence of buildings, the failures affecting the obsolescence of buildings and building constructions. Condition assessment of building constructions, technologies for the preservation of building value and value improving by reconstruction. The analysis of value and the methods of real estate valuation. Value enhancement through renovation, building rehabilitation and certification of structures. Methods of value analysis and property valuation. Environmentally friendly aspects in the building industry, healthy buildings and living/working circumstances. Building biology and indoor comfort.

2.2 Tanulási eredmények

A tantárgy sikeres teljesítése utána a hallgató

A. Tudás

1. Have an overview of the failures of building constructions.
2. Can properly assess the condition of building constructions according to various inspection criteria.
3. Know the consequences of constructional failures and damages.
4. Has an overview of the obsolescence of building structures, value prevention technologies, renovation options, taking into account environmental considerations.
5. Understands the advantages and disadvantages of assessment methods and the accuracy of estimation of the assessment methods used.
6. Knowledge of the characteristics of healthy buildings, building biology and comfort conditions.
7. Understands standards, regulations and the need to take them into account from a certification point of view.
8. Interprets in a creative way the expected trends in the development and improvement of the technical field.
9. Possesses the knowledge of research methodology necessary for independent research in the field of engineering.

B. Képesség

1. Professionally summarise the topics of building construction value assessment.
2. Effectively use knowledge acquisition methods (textbooks, catalogues, scientific articles, online resources) in his/her work.
3. Reliably evaluate the results of valuation methods.
4. Can assess the condition of building structures and provide renovation solutions.
5. Ability to apply theoretical knowledge in a critical and considered context when assessing a given building/building structure.
6. Ability to carry out research in his/her field of specialisation, to solve specific problems encountered; to develop and apply new interdisciplinary methods.
7. Ability to develop and demonstrate new research techniques and approaches in a given discipline.

C. Attitűd

1. Collaborate with the teacher and fellow students in the development of knowledge.
2. Expands his/her knowledge through continuous learning and is open to new ways of acquiring information.
3. Strives to use professional terminology in a professional manner.
4. Is committed to and critical of professional, technological development and innovation in engineering.
5. Committed to quality standards.

D. 3náll3s3g 3s felel3ss3g

1. Independently complete the study/topic of your choice.
2. Is open to well-founded critical comments.
3. Initiates new research in a creative way.
4. Has a high degree of autonomy in developing, representing and advocating professional views on broad and specific professional issues in the field of modern engineering.

2.3 Oktat3si m3dszertan

Lectures, case studies, field trips, written and oral communication, optional independent and group work, work organisation techniques.

2.4 R3szletes t3rgyprogram

Week	Topics of lectures and/or exercise classes
1.	Introduction. Objectives and tasks of technical value analysis
2.	The obsolescence of buildings, failures affecting the obsolescence of buildings and building structures.
3.	Condition assessment of building constructions.
4.	Diagnostics of building constructions in contact with soil, methods of renovation. Assessment of the condition of walls, slabs, roofs and windows.
5.	Technologies of value preservation.
6.	Value enhancement through renovation, building rehabilitation and certification of constructions.
7.	Environmentally consciousness in the building industry. Environmental building renovation aspects and methods. Circular economy.
8.	Methods of value analysis and real estate valuation.
9.	Special building construction solutions: modular construction, analysis of earth houses, container houses.
10.	Healthy buildings and living/working space
11.	Building biology and indoor comfort.
12.	Case studies.

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13.	Educational field trip
14.	Research, evaluation of articles, methodology.

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

- Emmitt, Stephen, Barry's Introduction to Construction of Buildings John Wiley & Sons Inc, 2018, ISBN 9781118977163
- Emmitt, Stephen, Barry's Advanced Construction of Buildings John Wiley & Sons Inc, 2018, ISBN 9781118977101
- [Ernst Neufert Győri Róbert \(Szerk.\)](#) Építés- és tervezéstan, Dialóg Campus, 2014 ISBN 9786155376207
- Tom Woolley, Sam Kimmins, Rob Harrison, Paul Harrison: Green building handbook ISBN-13: 978-0419226901, ISBN-10: 0419226907
- Relevant scientific articles from the following journals: Building and Environment, Energy and Buildings, Journal of Cleaner Production, Construction and Building Materials, Journal of Cultural Heritage, Engineering Structures, Detail

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:

dudas.annamaria@emk.bme.hu, horn.valeria@emk.bme.hu

Jelen TAD az alábbi félévre érvényes:

Inactive courses

II. Tárgykövetelmények

3. A tanulmányi teljesítmény ellenőrzése és értékelése

3.1 Általános szabályok

The assessment of the learning outcomes in 2.2 is based on an examination and active participation in lectures. The lectures are at least. 70 % of the lectures must be attended.

3.2 Teljesítményértékelési módszerek

Evaluation form	Abbrev.	Assessed learning outcomes
active participation (continuous evaluation)	A	A.1-A.9; B.2, B.7; C.1-C.5; D.2-D.4
exam (summarizing evaluation)	E	A.1-A.9; B.1-B.7; C.3-C.5; D.1-D.2

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
A	10 %
During semester period - Sum	10 %
Exam	90 %
Sum	100 %

3.4 Az aláírás megszerzésének feltétele, az aláírás érvényessége

Active participation in at least 70% of the lectures is required to obtain a signature. The previously obtained semester results unlimitedly can be taken into account in the examination.

3.5 Érdemjegy megállapítása

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

Exam and active participation are rated with a grade between 1 and 5. For those who fulfil the attendance requirements, the grades are determined as above.

3.6 Javítás és pótlás

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	$14 \times 2 = 28$
Preparation for the lessons	$14 \times 0,5 = 7$
Preparation of the home assignments	55
Sum	90

3.8 A tárgykövetelmények érvényessége

2022. szeptember 1.

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Inactive courses