I. Tantárgyleírás

1. Alapadatok

1.1 Tantárgy neve

PUBLIC WORKS I.

1.2 Azonosító (tantárgykód)

BMEEOVKAT42

1.3 Tantárgy jellege

Kontaktórás tanegység

1.4 Óraszámok

Típus	Óraszám / (nap)
Előadás (elmélet)	2
Gyakorlat	1

1.5 Tanulmányi teljesítményértékelés (minőségi értékelés) típusa

Vizsga

1.6 Kreditszám

3

1.7 Tárgyfelelős

név	Dr. Fülöp Roland
beosztás	Adjunktus
email	fulop.roland@emk.bme.hu

1.8 Tantárgyat gondozó oktatási szervezeti egység

Vízi Közmű és Környezetmérnöki Tanszék

1.9 A tantárgy weblapja

https://edu.epito.bme.hu/course/view.php?id=460
https://edu.epito.bme.hu/course/view.php?id=460

1.10 Az oktatás nyelve

magyar és angol

1.11 Tantárgy típusa

Kötelező az építőmérnöki (BSc) szakon

1.12 Előkövetelmények

Strong prerequisites:

- Hydraulics I. (BMEEOVVAT42)

1.13 Tantárgyleírás érvényessége

2020. február 5.

2. Célkitűzések és tanulási eredmények

2.1 Célkitűzések

The objective of the subject is that the students gain knowledge about the main characteristics of public works, their effects on each other and on other facilities. In addition the other goal is that the students get appropriate approach for the rational management of urban subsurface area when working as general designers or urban managers. Topics: systematic and designing basics on water supply, water purification, sewage, sewage treatment, gas supply, district heating, electricity supply, telecommunication.

2.2 Tanulási eredmények

A tantárgy sikeres teljesítése utána a hallgató

A. Tudás

1. will learn the types of public works,
2. will learn the system elements of water supply,
3. will learn the structure of urban drainage networks,
4. will learn the design specifications of water utilities,
5. will learn the causes of the reconstruction of public works
6. will learn the building methods of water utilities.

B. Képesség

1. will be able to calculate the water loads,
2. will be able to calculate the size of water utilities,
3. will be able to use professional communication with decision makers of other sectors,
4. will be able to manage the building tasks,
5. will be able to calculate the horizontal and vertical alignment of public works,
6. will be able to create the technical description.

C. Attitűd

1. cooperates with the tutor/lecturer,
2. continuously extends his/her knowledge, e.g. in addition to compulsory curriculum using Internet based literature to find answers,
3. comprehensive and clear in verbal communication and accurate and orderly in written communication, to fulfil the standards and expectations of the engineering profession

D. Önállóság és felelősség

1. applies systematic approaching while solving problems and performing tasks.

2.3 Oktatási módszertan

Lectures, exercises, written and oral communications, application of IT tools and techniques, assignments solved individually.

2.4 Részletes tárgyprogram

Week	Topics of lectures and/or exercise classes
1.	Grouping and main features of public works. Load calculation (practical lesson).
2.	Grouping and main features of public works.
3.	General overview of water supply networks (system elements). Determination of water storage volume in drinking water networks.
4.	Determination of water demands (different types of water demand, calculation, data)
5.	Water storage (types of water storage, placement, water quality). Alignment of the water supply network (practical lesson).

6.	Design of water networks.
7.	Urban drainage systems (types, quality, quantity, etc.). Design of water supply systems (practical lesson).
8.	Waste water loads (infiltration, domestic, industrial, emission conditions).
9.	Vertical and horizontal alignment of urban drainage systems. Determination of waste water loads, alignment of the wastewater network (practical lesson).
10.	Calculation methods of drainage systems (manual calculation).
11.	Design phases, preparation of design. Design of wastewater network (practical lesson).
12.	Traditional building methods (drainage of construction site, conditions).
13.	Traditional building methods (machines). Part summary.
14.	Pipe materials.

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) Textbooks
1. Darabos Péter - Mészáros Pál: Közművek
2. Knolmár Marcell – Fülöp Roland – Darabos Péter: Public Works Lecture notes and practical manual
b) Online materials
1. lecture materials on the home page of the subject

2.6 Egyéb tudnivalók

Minimum one consultation per tasks is compulsory.

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: fulop.roland@epito.bme.hu knolmar.marcell@epito.bme.hu

Jelen TAD az alábbi félévre érvényes:

II. Tárgykövetelmények

3. A tanulmányi teljesítmény ellenőrzése és értékelése

3.1 Általános szabályok

The assessment of the learning outcomes specified in clause 2.2. above and the evaluation of student performance occurs via one midterm test, home assignment and performance measurement during examination period. During the exam first the student has to provide written answers for the two minimum questions at acceptable level. In case of the successful answers of the minimum questions the exam continues with the oral exam. The result of the exam is based on the grade of the oral exam.

3.2 Teljesítményértékelési módszerek

Evaluation form	Abbreviation	Assessed learning outcomes
1. midterm test (summary evaluation)	ZH1	A.1-A.6; B.1-B.6; C.1-C.3; D.1
Home assignment (continuous performance measurement)	HF	B.1-B.6; C.1-C.3; D.1
Written and oral exam (summary performance measurement)	V	A.1-A.6; B.1-B.6; C.2-C.3; D.1

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
ZH	20%
HF	30%
Achievable during midterm	**50%**
V	50%
Total	**100%**

3.4 Az aláírás megszerzésének feltétele, az aláírás érvényessége

Signature can be obtained, if the scores of the midterm test exceed 45 %, furthermore the home assignment is graded as minimum passed.
The home assignment is evaluated according to the criteria and scoring rules detailed on the datasheet of the home assignment.

3.5 Érdemjegy megállapítása

Grade	Points (P)
excellent (5)	85<=P
good (4)	70<=P<85%
satisfactory (3)	57<=P<70%
passed (2)	45<=P<57%
failed (1)	P<45%

The final grade is the weighted average of the midterm test, the home assignment and the exam, specified in clause 2.2.

3.6 Javítás és pótlás

1. The midterm test can be repeated – once without fee – at a previously determined date given in the course schedule. If the first repetition is also unsatisfactory (failed), then the test can be repeated once more, during the repetition week, by paying a fee.
2. Submit of the home assignment is due to 12.00 a.m. on the last working day of midterm, without fee. Extended submission date is 12.00 a.m. on the first working day of the examination period. In this case submission is possible by paying a fee.

3.7 A tantárgy elvégzéséhez szükséges tanulmányi munka

Activity	Hours/semester
contact hours	14×3=42

preparation for the courses	13
preparation for the tests	15
home studying of the written material	20
Sum	**90**

3.8 A tárgykövetelmények érvényessége

2020. február 5.

Jelen TAD az alábbi félévre érvényes: