COURSE SYLLABUS AND COURSE REQUIREMENTS
ACADEMIC YEAR 2022/23 SEMESTER 2.

Course title	*Structural/ Diagnostic Practice 1.*
Course Code	MSB381AN
Hours/Week: le/pr/lab	0/0/1
Credits	1
Degree Programme	Civil Engineering BSc
Study Mode	*full time*
Requirements	mid-term grade
Teaching Period	Spring semester (6.)
Prerequisites	Strength of Materials 2.
Department(s)	Department of Civil Engineering
Course Director	Dr. Zoltán Orbán
Teaching Staff	Dr. Zoltán Orbán, András Dormány

COURSE DESCRIPTION

The course provides students with a basic knowledge on the diagnostics, inspection and condition assessment of existing engineering structures. The semester will introduce basic destructive and non-destructive methods used for strength and structural analysis of buildings and engineering structures. The tests will be complemented by the identification and analysis of other damaging factors that adversely affect strength characteristics.

SYLLABUS

1. GOALS AND OBJECTIVES

The objective of the course is to provide students with the basic knowledge for the strength and structural analysis of existing structures through theoretical presentations and laboratory exercises.

2. COURSE CONTENT

	TOPICS
LABORATORY PRACTICE	1. *Structural diagnostics in general,* 2. *Damages of structural materials* 3. *Destructive strength testing methods* 4. *Non-Destructive strength testing methods* 5. *Damage characteristics testing*

DETAILED SYLLABUS AND COURSE SCHEDULE

PRACTICE, LABORATORY PRACTICE

week	**Topic**	**Compulsory reading; page number (from … to …)**	**Required tasks (assignments, tests, etc.)**	**Completion date, due date**
1.	General information			
2.	Structural diagnostics in general	[2.]		
3.	Damages of structures and materials	[1.] [2.]		
4.	Damage to concrete structures /demonstration/	[1.] [2.]		

5.	Concrete strength tests - Destructive methods. Strength tests of masonry - Destructive methods	[1.] [2.]		
6.	No class			
7.	Strength tests of wood and steel structures - - Destructive methods	[2.]		
8.	Mid-term exam		Test 1	
9.	Break			
10.	Non-destructive strength tests 1 (testing of concrete structures)	[1.] [2.]		
11.	Non-destructive strength tests 2 (combined tests of concrete structures)	[2.]		
12.	Non-destructive strength tests 3 (masonry structures)	[2.]		
13.	Non-destructive strength tests 4 (timber and steel structures)	[1.] [2.]		
14.	Damage characteristics /specific tests/	[1.] [2.]		
15.	Final exam		Test 2	

3. ASSESSMENT AND EVALUATION

ATTENDANCE

Absence from practical sessions during the semester must not exceed 30%.

Method for monitoring attendance *(e.g.: attendance sheet / online test/ register, etc.)*

Attendance sheet

ASSESSMENT

Course resulting in mid-term grade *(PTE TVSz 40§(3))*

Mid-term assessments, performance evaluation and their ratio in the final grade *(The samples in the table to be deleted.)*

Type	Assessment	Ratio in the final grade
Test 1	*max 30 points*	*30 %*
Test 2	*max 50 points*	*50 %*
Active participation in laboratory exercises	*max 20 points*	*20 %*

Opportunity and procedure for re-takes (PTE TVSz 47§(4))

During the first two weeks of the examination period, it is possible to make up and correct the mid-term and final exam grades once.

Grade calculation as a percentage

based on the aggregate performance according to the following table

Course grade	Performance in %
excellent (5)	85 % …
good (4)	70 % ... 85 %
satisfactory (3)	55 % ... 70 %
pass (2)	40 % ... 55 %
fail (1)	below 40 %

The lower limit given at each grade belongs to that grade.

4. SPECIFIED LITERATURE

COMPULSORY READING AND AVAILABILITY

[1.] M Raupach, Till Büttler: Concrete Repair to EN 1504 - Diagnosis, Design principles and Practice, CRC Press, ISBN-13: 978-1-4665-5746-8

RECOMMENDED LITERATURE AND AVAILABILITY

[2.] Practical guides for all topics /download/