

# BUILDING MATERIALS AND CHEMISTRY

## 2022/23. 1. SEMESTER

BASIC DATA			
<b>COURSE NAME</b>	Építőanyagok és kémia	Building materials and chemistry	
<b>COURSE CODE(S)</b>	YCRÉPKÉBNF		
<b>DEPARTMENT</b>	Óbuda University, Faculty of Architecture and Civil Engineering, Institute of Civil Engineering		
<b>PROGRAMME, TRAINING</b>	Civil Engineer BSc	full-time, Erasmus	
<b>COURSE INSTRUCTOR</b> (Instructor managing the course)	Dr. Sándor <u>FEHÉRVÁRI</u> PhD, Associate Professor	fehervari.sandor@ybl.uni-obuda.hu	consulting hours: to be considered later
<b>INSTRUCTORS, LECTURERS</b>	Ferenc <u>NEMODA</u> , Distinguished Tutor	nemoda.ferenc@ybl.uni-obuda.hu	consulting hours: to be considered later
<b>PRE-REQUIREMENT</b>	-		
<b>HOURS OF LECTURES (WEEKLY)</b>	2 hours		
<b>HOURS OF CLASSROOM PRACTICE/ LAB EXERCISE (WEEKLY)</b>	2 hours		
<b>FIELD AND TRAINING (WEEKLY)</b>	0 hours		
<b>ASSIGNMENT</b>	Midsemester tests, homework and exam		
<b>CREDITS</b>	7 credits (ECTS) for Erasmus Students		
<b>AIM OF THE COURSE; BRIEF DESCRIPTION</b>	Students become familiar with the basic mechanical and physical properties of construction materials. Basic physical, mechanical, and hydromechanical properties of the binder materials, aggregates, concrete, mortar.		
<b>RECOMMENDED LITERATURE</b>	a) Study Aids. b) Everett, Alan: Materials. Mitchel's building series. ISBN 0-7134-5442-3		
<b>REQUIRED TECHNICAL APPLIANCES/ SOFTWARE</b>	The use of mobile phones is prohibited during the examinations. In the case of online education: Contact: Neptun, E-learning (Moodle) and E-mail. Education materials: According to E-learning (Moodle) Lessons: E-learning, MS Teams Own laptop is suggested.		

## SCHEDULE OF THE SEMESTER

WEEK	LECTURE	LECTURER	FORM OF PRACTICE	PROGRAM OF PRACTICE
1.	Physical and mechanical parameters of the building materials	FS, NF	lab exercise	Physical and mechanical parameters of the building materials
2.	Mechanical and rheological properties	FS, NF	lab exercise	Mechanical and rheological properties
3.	Binder materials. Types, properties, usages.	FS, NF	lab exercise	Binder materials. Types, properties, usages.
4.	Binder materials. Types, properties, usages.	FS, NF	lab exercise	Binder materials. Types, properties, usages.
5.	Aggregates. Types, properties, usages.	FS, NF	lab exercise	Aggregates. Types, properties, usages.
6.	Aggregates. Types, properties, usages.	FS, NF	lab exercise	Aggregates. Types, properties, usages.
7.	Chemistry of building materials	FS, NF	lab exercise	Chemistry of building materials <b>1<sup>st</sup> Test: Basic properties, binder materials, aggregates</b>
8.	Concrete mix design	FS, NF	lab exercise	Concrete mix design <b>Homework: Concrete mix design</b>
9.	Properties of the fresh concrete	FS, NF	lab exercise	Properties of the fresh concrete
10.	Properties of the hardened concrete	FS, NF	lab exercise	Properties of the hardened concrete
11.	Mortars	FS, NF	lab exercise	Mortars <b>2<sup>nd</sup> Test: Concrete properties and mix design</b>
12.	Summarisation	FS, NF	lab exercise	Summarisation <b>Homework: deadline of uploading</b>
13.	Repetition possibility for the tests	FS, NF	lab exercise	Repetition possibility for the tests

*Detailed schedule will be upload to the E-learning site.*

REQUIREMENTS FOR THE COMPLETION OF THE SEMESTER		
MID-SEMESTER TASKS AND TESTS		
Requirement	Description	Value (point, %, grade)
<b>PARTICIPATION AT LESSONS</b>	The practice lessons can be missed up to three times (see § 46 ETVSZ).	-
<b>IN CASE OF ABSENCE FROM LESSONS AND EXAMINATIONS</b>	Absence is considered to be justified with a medical certificate presented.	-
<b>TESTS</b>	At midsemester tests (2 pcs) are achievable max. number of points 20 points: - 1 <sup>st</sup> midterm theory test: Max. 10 points may be obtained, - 2 <sup>nd</sup> midterm theory test: Max. 10 points may be achieved. At least 5 points are to be collected in each test. It will ensure repetitions possibility of both tests at the end of the semester.	20 points
<b>HOMEWORK</b>	Homework: Making a complete concrete mix design. At least 15 points are to be collected in this work.	30 points
<b>PRE-EXAM / EXAM</b>	Summarizing exam will be held at the examining period. Max. 50 points may be achieved. For this exam, at least 25 points are to be collected.	50 points
<b>TOTAL</b>		100 points

SEMESTER CLOSING REQUIREMENTS					
<b>CONDITIONS FOR OBTAINING A SIGNATURE</b>	Successful midterm tests, acceptable homework, adequate participation.				
<b>SPECIAL EXAM COMPENSATING THE MIDYEAR TESTS FAILURES</b>	If a student did not fulfil the requirements for obtaining the midyear test requirements, but has collected at least 2-2 points in each test, will be provided one occasion to make up for it within the study period in a way of a special exam containing the whole curriculum of the semester. This kind of exam is for the obtention of the semester signature only! The missing/insufficient homework or inadequate participation cannot be compensated at this special exam.				
<b>CONDITIONS FOR OBTAINING AN OFFERED GRADE</b>	17 out of the 20 points has to be reached in the test and at least 42 points together with the semester tasks. Then the points are doubled, and a grade is offered without the exam.				
	84-89 Point		90-100 Point		
	4 - GOOD		5 - EXCELLENT		
<b>CONDITIONS FOR ADMISSION TO THE EXAM</b>	Only students who have already obtained a signature can take the exam. During the exam period, the student has to register for the exam in the Neptun. The test is a written test with a total value of 50 points. At least 25 points are to be collected in the exam. The semester and the exam points are summarised.				
<b>EXAM GRADE</b>	Below 50,0 points	50-62	63-74	75-89	90-100
	1 - FAIL	2 - PASS	3 - SATISFACTORY	4 - GOOD	5 - EXCELLENT

 Budapest, dated 31<sup>th</sup> March 2022

Approved by:

Dr. Sándor Fehérvári

head of department

Department of Fire Safety and Construction Material Sciences