

Name of subject:		Construction Materials I.	Neptun code:	BMEEOEMAT43	
Lecturer/s:		Dr. Olivér FENYVESI			
Weekly detailing of the program:					
week	Lectures syllabi			Laboratory syllabi	Mid term tests / H.W.
1.	History of construction materials. Natural construction materials and their properties. Solids, porous materials, bulks.			Work safety regulations, introduction, basic mechanical properties.	
2.	Aggregates and their properties, test methods.			Determination of density and related properties.	
3.	Concept of binders, the lime circle, gypsum, resins and mineral composition of ordinary Portland cement, hydration, blending, setting and hardening and influencing factors.			Grading of aggregate (sieve test).	
4.	Iron: production, composition, properties. Steel: production, composition, types, mechanical properties, corrosion.			Testing tensile properties of steel.	
5.	Properties of fresh (green) and hardened concrete.			Binders: Slaking quicklime sample, testing the setting time of gypsum and cement.	
6.	Quality control of construction materials.			Bases of mathematical statistics, interpretation of characteristic strength..	
7.	Mid term test.			(Spring holiday)	Mid term test
8.	Spring holiday			(Spring holiday)	
9.	Concept of mortars, concrete types and constituents.			Aggregate mix design.	1 <sup>st</sup> H.W. (issuance) repetition of Mid term test.
10.	Timber as construction materials, engineered timber and properties.			Concrete mix design.	2 <sup>nd</sup> H.W. (issuance)
11.	Brick and masonry elements (history, production, properties).			Hydrotechnical properties of porous materials.	
12.	Holiday			Computing practices	
13.	Glass: constituents, production, types, properties.			Mixing fresh concrete, consistency measurements, determination of air content.	Calculation Mid term test
14.	Plastics: types, production, mechanical properties, fields of usage.			Testing hardened concrete.	Repetition of Calculation Mid term test
15.	Construction materials in the process of structural design.			Testing timber (dry, wet etc.)	Submission of Home Issuances
Rep.	2nd repetition possibility of Mid term test. Late submission of H.W			(preexamination).	
Possible repetitions:		Late submission of H.W., Repeated mid term tests			
Requirements to fulfil during the study period:		Successful mid term test and calculation mid term test, submission of both homeworks. (Minimum number of points from each is 50%).			
Examination:		Written and oral if the written part is successful (min. 50%).			
Final evaluation:		Midterm result (50%) + examination result (50%).			