

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