

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.	Work safety regulations, introduction, basic mechanical properties.		
2.	Solids, porous materials, bulks.	Determination of density and related properties.		
3.	Aggregates and their properties, test methods.	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.	Iron: production, composition, properties. Steel: production, composition, types, mechanical properties, corrosion.	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.	Quality control of construction materials.	Aggregate mix design.	1 st H.W. (issuance)	
8.	Mid term test.	Concrete mix design.	2 nd H.W. (issuance) Mid term test	
9.	Concept of mortars, concrete types and constituents.	(Spring holiday)	repetition of Mid term test.	
10.	Spring holiday	Hydrotechnical properties of porous materials.		
11.	Timber as construction materials, engineered timber and properties.	Computing practices		
12.	Brick and masonry elements (history, production, properties).	Mixing fresh concrete, consistency measurements, determination of air content.	Calculation Mid term test	
13.	Glass: constituents, production, types, properties.	Testing hardened concrete.	Repetition of Calculation Mid term test	
14.	Plastics: types, production, mechanical properties, fields of usage. 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%).			