

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) concrete.	Binders: Slaking quicklime sample, testing the setting time of gypsum and cement.		
6.	Properties of 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.	Hydrotechnical properties of porous materials.		
10.	Brick and masonry elements (history, production, properties).	<i>(Spring holiday)</i>	Repetition of Mid term test.	
11.	<i>Spring holiday</i>	<i>(Spring holiday)</i>		
12.	Timber as construction materials, engineered timber and properties.	<i>(Holiday)</i>		
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.	2 nd repetition possibility of Mid term test. Late submission of H.W	<i>(preexamination).</i>		
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 verbal if the written part is successful (min. 50%).			
Final evaluation:	Midterm result (50%) + examination result (50%).			