MATERIALS OF CONSTRUCTION

1	Course Title:	MATERIALS OF CONSTRUCTION	
2	Course Code:	INS2032	
3	Type of Course:	Compulsory	
4	Level of Course:	First Cycle	
5	Year of Study:	2	
6	Semester:	4	
7	ECTS Credits Allocated:	5.00	
8	Theoretical (hour/week):	2.00	
9	Practice (hour/week):	1.00	
10	Laboratory (hour/week):	1	
11	Prerequisites:	None	
12	Language:	Turkish	
13	Mode of Delivery:	Face to face	
14	Course Coordinator:	Doç. Dr. ALİ MARDANI AGHABAGLOU	
15	Course Lecturers:		
16	Contact information of the Course Coordinator:	ali.mardani16@gmail.com	
17	Website:		
18	Objective of the Course:	The objective of this course is to introduce the students the properties and the fields of usage of different materials used in civil engineering applications.	
19	Contribution of the Course to Professional Development:	To ensure that students graduate as competent engineers with knowledge about building materials	
20	Learning Outcomes:		
		1	Recognising the materials used in civil engineering applications and learning their important properties
		2	Getting the ability to make a selection among different materials for a specific application by using engineering knowledge
		3	Testing some properties of construction materials and reporting the results
		4	Designing concrete mixture
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21	Course Content:		

Course Content:

Week	Theoretical	Practice
1	Introduction, Natural stones: properties, classification and production	
2	Metals: Ferrous metals, non-ferrous metals and their properties, classification, metals used in construction	

3	Plastics: Thermoplastics, thermosets, the molecular structure of plastics, classification and uses	
4	Ceramics: Classification, manufacture, physical and chemical properties and uses	
5	Wood: Physical and mechanical properties,	
6	Wood: Defects, deterioration and preservation	
7	Gypsum and lime: manufacture, properties, types, uses	
8	Pozzolans: Classification, pozzolanic reaction, Pozzolanic activity and factors affecting it, chemical composition, uses	
9	Cement: Manufacture, properties, hydration	Tests on cement
10	Cement: Hydration, types, tests on cements	
11	Aggregates: Classification, sampling, gradation, fineness modulus, physical properties, tests on aggregates	Tests on aggregate
12	Concrete: Properties of fresh and hardened concrete, Concrete: mixing, handling, curing of hardened concrete,	Tests on concrete
13	Concrete: mix proportioning	
14	Concrete: mix proportioning	
22	Textbooks, References and/or Other	İnşaat Mühendisleri için Malzeme Bilgisi, Prof. Dr. Bülent [illegible] 1976, Malzeme Bilimi, Prof. Dr. Kasif ONARAN, Bilim Teknik Erdogan, T.Y., "Materials of Construction", ODTU Press, (2003) London, 1981. M.L. Gambhir, Concrete Technology, Tata McGraw-Hill S. Mindness, J.F. Young, D. Darwin, Concrete, Second Edition, Prentice-Hall, Englewood Cliffs, N.J., 2003. T.Y. Erdoğan, Sorular ve Yanıtlarıyla Beton Malzemeleri, TMMOB, İstanbul, 2005. Second Edition, 1985. P.K. Mehta, P.J.M. Monteiro, Concrete: Microstructure, 2006.

Activites	Number	Duration (hour)	Total Work Load (hour)
Theoretical	14	2.00	28.00
Practicals/Labs	14	1.00	14.00
Self study and preperation	14	7.00	98.00
Homeworks	1	7.00	7.00
Projects	0	0.00	0.00
Field Studies	0	0.00	0.00
Midterm exams	1	2.00	2.00
Others	0	0.00	0.00
Final Exams	1	2.00	2.00
Total Work Load			153.00
Total work load/ 30 hr			5.03
ECTS Credit of the Course			5.00

23 Assesment

TERM LEARNING ACTIVITIES	**NUMBER**	**WEIGHT**
Midterm Exam	1	20.00
Quiz	0	0.00
Home work-project	1	20.00
Final Exam	1	60.00
Total	3	100.00
Contribution of Term (Year) Learning Activities to Success Grade		40.00
Contribution of Final Exam to Success Grade		60.00

Total	100.00
Measurement and Evaluation Techniques Used in the Course	Assessment and evaluation tools and methods, in which the students are active, show that they reach the gains/outputs at the end of the course with their progress in the course process.

24	ECTS / WORK LOAD TABLE

25	CONTRIBUTION OF LEARNING OUTCOMES TO PROGRAMME QUALIFICATIONS															
	PQ1	**PQ2**	**PQ3**	**PQ4**	**PQ5**	**PQ6**	**PQ7**	**PQ8**	**PQ9**	**PQ10**	**PQ11**	**PQ12**	**PQ13**	**PQ14**	**PQ15**	**PQ16**
ÖK1	5	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK2	0	5	0	5	0	0	0	0	0	0	0	0	0	0	0	0
ÖK3	0	0	0	0	5	5	4	0	0	0	0	0	0	0	0	0
ÖK4	4	4	5	0	0	0	0	0	0	0	0	0	0	0	0	0
LO: Learning Objectives PQ: Program Qualifications																
Contribution Level:	**1 very low**		**2 low**			**3 Medium**			**4 High**			**5 Very High**				