

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:		
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		
Activites		Number	Duration (hour)	Total Work Load (hour)
Theoretical		1976, Malzeme Bilimi. Prof. Dr. Kasif ONARAN. Bilim Teknik	2.00	28.00
Practicals/Labs		14	1.00	14.00
Self study and preperation		Erdogan, I.Y., Materials of Construction , CDD Press, (2003)	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		St. Mindness, J.T. : Young, D. Darwin, Concrete, Second Edition, Prentice-Hall, Englewood Cliffs, N.J., 2003.	2.00	2.00
Others		0	0.00	0.00
Final Exams		T.T. Erdogan, Sordular ve Tanitlariya Beton malzemeleri, TIBB, İstanbul, 2005.	2.00	2.00
Total Work Load				151.00
Total work load/ 30 hr		Second Edition, 1988. P.K. Mehta, P.J.M. Monteiro, Concrete: Microstructure,		5.03
ECTS Credit of the Course				5.00
		2000.		
23	Assesment			
TERM LEARNING ACTIVITIES		NUMBE R	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																
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			