

SPECIAL CONCRETE

1	Course Title:	SPECIAL CONCRETE
2	Course Code:	INS5042
3	Type of Course:	Optional
4	Level of Course:	Third Cycle
5	Year of Study:	1
6	Semester:	2
7	ECTS Credits Allocated:	6.00
8	Theoretical (hour/week):	3.00
9	Practice (hour/week):	0.00
10	Laboratory (hour/week):	0
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 alimardani@uludag.edu.tr
17	Website:	
18	Objective of the Course:	The aim of this course is to provide the information related with the production, advantages, disadvantages, properties and use of special concrete.
19	Contribution of the Course to Professional Development:	1-To know special concrete 2-To learn design criteria of different special concrete mixtures 3-To obtain information about mechanical and some physical properties of special concrete mixtures 4-To learn field of application of special concrete
20	Learning Outcomes:	
	1	To know special concrete
	2	To learn design criteria of different special concrete mixtures
	3	To obtain information about mechanical and some physical properties of special concrete mixtures
	4	To learn field of application of special concrete
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21	Course Content:	
	Course Content:	
Week	Theoretical	Practice
1	Introduction, cement, aggregate, concrete	
2	The required properties of concrete	

3	Lightweight concrete: properties, production methods, advantages and disadvantages compared with normal concrete, lightweight aggregates and their properties, fresh state and mechanical properties as well as durability performance of lightweight concrete	
4	Heavyweight concrete: applications, the aggregates used in concrete mixtures, concrete properties and its durability	
5	Self-compacting concrete (SCC): definition, advantages and disadvantages, mix proportions, fresh concrete properties, tests on SCC	
6	Fiber reinforced concrete: properties, applications, advantages, material selection, fiber types, fresh properties, mechanical properties	
7	Shotcrete: Steel fiber shotcrete	
8	Polymer concrete: classification, fresh properties, mechanical properties	
9	Midterm	
10	Roller compacted concrete: properties,	
11	Roller compacted concrete: transportation, casting, compacting,	
12	Vacuum concrete: concrete equipment, properties	

Activites	Number	Duration (hour)	Total Work Load (hour)
Theoretical concrete, properties	14	3.00	42.00
Practicals/Labs	0	0.00	0.00
Self study and preparation	Bulent BARADAN, DEU 8108. Fak. Yayınları 1290 No:		
Homeworks	1	20.00	20.00
Projects	KOCATAŞKIN, İTÜ, Müh. Fak., Sayı 109, İstanbul,		
Field Studies	0	0.00	0.00
Midterm exams	Yayınevi, İstanbul, 1997	2.00	2.00
Others	0	0.00	0.00
Final Exams	5. A.M. Neville, Properties of Concrete, Pitman Pub., New Delhi, 1986.	2.00	2.00
Total Work Load			178.00
Total work load/ 30 hr	Pub.Co., New Delhi, 1986.		5.93
ECTS Credit of the Course			6.00

	8. T.Y. Erdoğan, Beton, ODTÜ, Ankara, 2003. 9. T.Y. Erdoğan, Sorular ve Yanıtlarıyla Beton Malzemeleri, THBB, İstanbul, 2005. 10. G.D. Taylor, Materials of Construction, Construction Press, Second Edition, 1983. 11. P.K. Mehta, P.J.M. Monteiro, Concrete: Microstructure, Properties and Materials, Mc Graw-Hill, Third Edition, 2006.
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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	Measurement and evaluation are performed according to the Rules & Regulations of Bursa Uludağ University on Undergraduate Education.	

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	4	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK2	4	3	3	0	0	0	0	4	0	0	0	0	0	0	0	0
ÖK3	4	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK4	0	0	0	0	0	0	0	3	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							