SPECIAL CONCRETE

1	Course Title:	SPECIAL CONCRETE	
2	Course Code:	INS5042	
3	Type of Course:	Optional	
4	Level of Course:	Second 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:	Prof. Dr. ALİ MARDANİ	
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
		5	
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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	14	3.00	42.00
Practicals/Labs	0	0.00	0.00
Self study and preperation	14	8.00	112.00
Homeworks	1	20.00	20.00
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			178.00
Total work load/ 30 hr			5.93
ECTS Credit of the Course			6.00

concrete, properties

Materials:

Bülent BARADAN, DEU Müh. Fak. Yayınları, Yayın No:

KOCATAŞKIN, İTÜ, Müh. Mim. Fak., Sayı 109, İstanbul,

Yayınevi, İstanbul, 1997,

5. A.M. Neville, Properties of Concrete, Pitman Pub.,

Pub.Co., New Delhi, 1986.

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.

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**