COURSE IDENTIFICATION FORM

Course Code and Name: IM5026 SPECIAL CONCRETES				**Department of :** CIVIL ENGINEERING / MASTER PROGRAMME			
Semester	**Theoretic Hour**	**Practice Hour**	**Total Hour**	**Credits**	**ECTS**	**Education Language**	**Type: Compulsory Elective**
Atumn/Spring	3	0	3	3	5	Turkish	Optional
Prerequisite (s)							
Instructor	Assoc. Prof. Dr. Nihan GÜLMEZ					**Mail :** nihangulmez@munzur.edu.tr **Web :**	
Course Assistant						**Mail :** **Web :**	
Groups / Classes							

Course Aim	This course aims to teach the production techniques of special concretes, the properties of the materials required for the production of special concretes, design principles and engineering properties of special concretes.
Course Goals	Concrete is no longer simply a mixture of water, cement, sand and coarse aggregate – the advent of chemical admixtures and better understanding of the hydration of cement, and other issues relating to properties of concrete, has made it possible to use several other ingredients and have led to the development of several special concretes and construction methods and use concrete in diverse environments. Building on the fundamental principles of normal concrete, this course explains how some commonly used special concretes have been developed and how they are used in different conditions. The course seeks to present a unified view of concrete materials, construction methods and construction environment and examine the matter on parameters such as quality control methods.
Course Learning Outs and Proficiencies	• Ability to define the basic properties of special concretes (knowledge) • Ability to select materials from different origins according to their area of use (comprehension) • Ability to describe special concrete design principles (knowledge) • Ability to compare special concrete types (analysis) • Deciding on the selection of special concrete according to need (application)
Course Basic and Auxiliary Contexts	• From the bar et al (2012). Concrete. DEU. Faculty of Engineering Publications. • Mindess , S., Young , J.F., Concrete : Prentice Hall , New Jersey. • Neville , A.M., Properties of Concrete , Longman Group Limited, Fourth Edition, 1995.

	• Aitcin , P. C. (2004). High- Performance Concrete , Taylor&Francis e-Library.
Methods of Give a Lecture	Face to Face

		If Available, to Sign (x)	**General Average Percentage (%) Rate**
Assessment Criteria	**Midterm Exam**	**X**	**50**
	1. Quiz		
	2. Quiz		
	3. Quiz		
	4. Quiz		
	Oral Examination		
	Practice Examination (Laboratory, Project etc.)		
	Final Exam	**X**	**50**

Semester Course Plan

Week	**Subjects**
1	Introduction - Concrete technology
2	Lightweight Concretes
3	Heavy Concretes
4	Self-Compacting Concretes
5	Fiber Concretes
6	Sprayed Concrete
7	Midterm Exam
8	Concrete casting under water
9	Polymer Concretes
10	Roller Compacted Concrete
11	Vacuum Concrete
12	High Performance Concretes
13	High Performance Concretes, Repair, reinforcement materials
14	Homework presentations