COURSE IDENTIFICATION FORM

Course Code and Name: IM5035 ADVANCED BUILDING PHYSICS				Department of: CIVIL ENGINEERING / MASTER'S DEGREE PROGRAM WITH THESIS			
Semester	**Theoretic Hour**	**Practice Hour**	**Total Hour**	**Credits**	**ECTS**	**Education Language**	**Type: Compulsory Elective**
Fall	3	0	3	3	5	Turkish	Optional
Prerequisite (s)							
Instructor		Prof. Dr. Murat Dal				**Mail : muratdal@munzur.edu.tr Web :**	
Course Assistant						**Mail : Web :**	
Groups / Classes							

Course Aim	It is aimed to define the physical, chemical and mechanical effects that cause deterioration in the structure, to explain the necessary precautions to prevent damage, to determine the location and cause of the damage, and to know the principles required for the repair of the damage.
Course Goals	
Course Learning Outs and Proficiencies	Knows the structural physics events occurring in buildings. Knows the physical, chemical and mechanical effects that cause deterioration in the structure and knows the necessary precautions to prevent damage. Knows the physical, chemical and mechanical effects that cause deterioration in the structure. Knows the necessary precautions to prevent damage to buildings. Knows the necessary precautions to prevent damage that causes deterioration in the structure.
Course Basic and Auxiliary Contexts	• Yapı fiziği ve hasarları, Yrd.Doç.Dr. Murat DAL'ın ders notları • Yapı Fiziği ve Malzemesi, Prof. Dr. Murat ERİÇ, Literatür Yayınları, 2010. • Yapı Fiziği Ders Notları, Y.Doç.dr.Sabit OYMAEL ODE Mühendislik yayınları 1997 İstanbul. • Yapı Elemanı tasarımında Malzeme-Toydemir-Gürdal-Tanaçan • Yapı Teknolajisi I-II –M.Selçuk Güner-Abdurrahim Yüksel

	• Binalarda ve Tesisatta Isı Yalıtımı-Prof.T.Hikmet Karakoç • Doğal Taşlardaki Bozunmalar, Yrd.Doç.Dr. Murat DAL, Mimarlık Vakfı İktisadi İşletmesi, 2012. • Beton Teknolojisi ve Beton Teknolojisi Laboratuvarı, Yrd.Doç.Dr. Murat DAL, Mimarlık Vakfı İktisadi İşletmesi, 2013. • Malzeme Bilimi, Prof. Dr. Kaşif ONARAN, Bilim Teknik Yayınevi, 1993. • Malzeme Bilimi Prob. ve Çözümleri, Prof. Dr. Kaşif ONARAN, Bilim Teknik Yay, 1993. • Malzeme Bilimi Ders Notları, Prof. Dr. Ferruh KOCATAŞKIN, İ.T.Ü. İnş. Fak. Matbaası. • Cisimlerin Yapısı ve Özelikleri, Prof. Bekir POSTACIOĞLU, İ.T.Ü. Yayını, 1981. • Malzemelerin Yapı ve Özelikleri, Cilt I, İç Yapılar, Cilt III, Mekanik Özelikler, Yazanlar: • Moffatt, Pearsall ve Wulff, Çevirenler: K. Onaran ve B. Erman, İTÜ Yayını, 1982 ve 1978. • Civil Engineering Materials, Ed. N. Jackson, 1984. • The Nature and Properties of Engineering Materials, Zbigniev D. Jastrazebski, 1987.
Methods of Give a Lecture	Lecture, research, observational and experimental studies

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

Semester Course Plan	
Week	**Subjects**
1	History of building physics
2	Defining building physics concepts
3	Building physics events occurring in buildings
4	Physical causes of building physics damages,
5	Chemical causes of building physics damages,
6	Damages caused by water and moisture in buildings
7	Insulation measures to be taken against building physics events
8	Thermal insulation calculations in buildings,
9	Material selection and detail development in accordance with calculation principles
10	To define the physical, chemical and mechanical effects that cause deterioration in the structure and to explain the necessary measures to prevent damage,
11	Determining the location and causes of structural damage
12	Sun, wind, frost etc. Effects of atmospheric effects on the building envelope
13	Principles necessary for the repair of building damages
14	General Exam-Presentations