TOROS ÜNİVERSİTESİ

Faculty Of Fıne Arts, Desıgn And Archıtecture
Archıtecture

Course Information

MATERIAL PROTECTION					
Code	**Semester**	**Theoretical**	**Practice**	**National Credit**	**ECTS Credit**
		Hour / Week			
ARC346	Spring	3	0	3	3

Prerequisites and co-requisites	ARC221, ARC222
Language of instruction	Turkish
Type	Elective
Level of Course	Bachelor's
Lecturer	Lect. Başak Yüncü
Mode of Delivery	Face to Face
Suggested Subject	
Professional practise (internship)	None
Objectives of the Course	The aim is to give an undestanding to the characteristic and provenience of contemporary and historic building materials used in construction and conservation projects and introduce the causes of deterioration and conservation techniques.
Contents of the Course	Building materials, wheathering, water exclution, soluble salts and their affect on material deterioration, sources of soluble salts, bio deterioration in buildings, physical/physicomechanical/mechanical properties of building materials, reasons of deterioration, methods of cause analysis, artificial ageing experiments, material conservation methods

Learning Outcomes of Course

#	Learning Outcomes
1	To identify materials and study why they deteriorate
2	To study the process of deterioration and the symptoms of deterioration of various materials
3	To be aware of the physical, physico-mechanical and mechanical properties of materials and the affects of these properties on deterioration process
4	To detect the reasons of deterioration and generate solutions for them

Course Syllabus

#	Subjects	Teaching Methods and Technics
1		
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15		
16	Final Exam	

Course Syllabus

#	Material / Resources	Information About Resources	Reference / Recommended Resources
1	Lectures on Materials Science for Architectural Conservation, Giorgio Torraca, 2009		
2	Mimari Metaller: bozunma nedenler, koruma ve restorasyon teknikleri, Bülent Uluengin, 2006		
3	Malzeme Bilimi ve Yapı Malzemeleri Deneyleri, Müslim Avcıoğlu, 2012		
4	Malzeme Bilimi Problemleri ve Çözümleri, Kaşif Onaran, 1987		
5	Gözenekli Malzemelerden Yapılmış Dış Duvarlarda Kullanılan Su İtici Malzemelerin Uzun Dönem Performansı, I. Ulusal Yapı Malzemesi Kongresi Bildirileri, Hülya Kuş, 2002		

Method of Assessment

#	Weight	Work Type	Work Title
1	20%	Mid-Term Exam	Mid-Term Exam
2	60%	Final Exam	Final Exam
3	5%	Homework	Homework
4	5%	Homework	Homework
5	5%	Homework	Homework
6	5%	Homework	Homework

Relationship between Learning Outcomes of Course and Program Outcomes

#	Learning Outcomes	Program Outcomes	Method of Assessment
1	To identify materials and study why they deteriorate	4,7,10	1,2,3,4,5,6
2	To study the process of deterioration and the symptoms of deterioration of various materials	4,7,10	1,2,3,4,5,6
3	To be aware of the physical, physico-mechanical and mechanical properties of materials and the affects of these properties on deterioration process	4,7,10	1,2,3,4,5,6
4	To detect the reasons of deterioration and generate solutions for them	4,7,10	1,2,3,4,5,6

PS. The numbers, which are shown in the column Method of Assessment, presents the methods shown in the previous table, titled as Method of Assessment.

Work Load Details

#	Type of Work	Quantity	Time (Hour)	Work Load
1	Course Duration	14	3	42
2	Course Duration Except Class (Preliminary Study, Enhancement)	14	2	28
3	Presentation and Seminar Preparation	0	0	0
4	Web Research, Library and Archival Work	0	0	0
5	Document/Information Listing	0	0	0
6	Workshop	0	0	0

7	Preparation for Midterm Exam	1	3	3
8	Midterm Exam	1	1	1
9	Quiz	0	0	0
10	Homework	4	3	12
11	Midterm Project	0	0	0
12	Midterm Exercise	0	0	0
13	Final Project	0	0	0
14	Final Exercise	0	0	0
15	Preparation for Final Exam	1	3	3
16	Final Exam	1	1	1
				90