

General course information:

Course title:	EXPERIMENTAL STRENGTH OF MATERIALS	Course code:	CE07-S05
Credits:	5	Work load (hours):	122
Course level:	Undergraduate <input checked="" type="checkbox"/>	Graduate	<input type="checkbox"/>
Course type:	Mandatory <input checked="" type="checkbox"/>	Selective	<input type="checkbox"/>
Course category:	Basic <input type="checkbox"/>	Orientation	<input checked="" type="checkbox"/>
Semester:	7 ^o	Hours per week:	4
Course objectives (capabilities pursued and learning results):			
Material characterization and mechanical behavior using the following laboratory tests: tension, compression, flexure, hardness, fatigue, creep, impact. Mechanical behavior estimation and assessment using simplified models.			
Prerequisites:			

Instructor's data:

Name:	Christos Papakonstantinou
Level:	Assistant Professor
Office:	
Tel. - email:	24210 74160, cpapak@uth.gr
Other tutors:	

Specific course information:

Week No.	Course contents	Hours	
		Class Lectures	Preparation
1	Introduction into mechanical behavior of materials	4	2
2	Experimental Setup – Devices used for measurements	4	2
3	Tension test	4	4
4	Compression test	4	4
5	Bending Test	4	4
6	Hardness test (Rockwell, Vickers, Brinell)	4	2
7	Torsion Test	4	4
8	Impact test	4	2
9	Fatigue test	4	2
10	Creep test	4	4
11	Material behavior modelling	4	4
12	Fracture mechanics	4	2
13	Non destructive tests – concrete	4	2
14	Non destructive tests – ultrasound - x-rays	4	2

Additional hours for:			
Class project	Examinations	Preparation for examinations	Educational visit
	2	24	

Teaching method (<i>select and describe if necessary - weight</i>):		
Teaching	X	...40.....%
Seminars	<input type="checkbox"/>%
Demonstrations	<input type="checkbox"/>%
Laboratory	X	...50.....%
Exercises	X	...10.....%
Visits at facilities	X%
Other (<i>describe</i>):	<input type="checkbox"/>%
Total		100%

Suggested literature:
<p>1. I. PRASIANAKIS, S. KOURKOULIS, «Experimental Structure Mechanics», ISBN 978-960-11-0008-1, Athens 1999.</p> <p>2. I. PRASIANAKIS, S. KOURKOULIS, «Labor - Experimental Structure Mechanics», Athens 1999.</p>

Evaluation method (<i>select</i>)- weight:				
	<i>Written</i>	<i>%</i>	<i>Oral</i>	<i>%</i>
Homework	X	40	<input type="checkbox"/>	
Class project	<input type="checkbox"/>		<input type="checkbox"/>	
Interim examination	<input type="checkbox"/>		<input type="checkbox"/>	
Final examinations	X	60	<input type="checkbox"/>	
Other (<i>describe</i>): Alternative	<input type="checkbox"/>		<input type="checkbox"/>	
		100%		